# the astrology of change 

HORARY ASTROLOGY AND ITS HUMANISTIC APPLICATIONS

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## The Astrology of Change

Horary Astrology and Its Humanistic Applications

Michael R. Meyer

Horary astrology is the "newest" and fastest growing branch of astrological study. Similar in theory to the principle of the / Ching, the horary (literally "of the hour") chart is cast for the time and place that a specific crisis arises in the life of the individual and is used to uncover the potential for growth which may be found at the heart of any personal problem. A valuable counterpart to Michael Meyer's research in natal astrology, this humanistic approach to the horary art offers contemporary man an easy-to-learn system for practical decision-making based on a timeless tradition.

The Astrology of Change is an entirely self-contained guide to horary astrology, including an in-depth discussion of the factors involved in interpreting a chart (houses, signs, planetary aspects, Sabian symbols, etc.), an actual case study showing the value of horary astrology in personal problem-solving, and an extended series of appendices containing all the tables and instructions necessary to cast a complete horary chart.

Michael R. Meyer is the author of A Handbook for the Humanistic Astrologer.

MICHAEL R. MEYER has been a student of astrology and occult philosophy for many years. He is the author of A Handbook for the Humanistic Astrologer, and his articles have appeared in several leading astrological periodicals, both in the United States and abroad, including Horoscope, The Aquarian Agent, and Astrology Now.
To
DANE RUDHYAR
in appreciation of his
inspiration and guidance

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## FOREWORD

In sending this book out to the world I would like to thank all who helped in making it a manifest reality. I'm especially grateful for the co-operation of my dear friend Nancy Kleban, who creatively assisted me throughout every phase of its growth. I'm grateful as well for the ideas, comments, and suggestions of many other friends who helped to make this a better book, particularly those of Julia Coopersmith, Robert Grantham, Michael Fagan, and Terri Teague.

I should also mention that my purpose in this book is not to produce a "bible" of horary astrology, but rather to lay a foundation from which the humanistically oriented person may approach the use and interpretation of horary techniques. Limitations of space prevented me from exploring some of the more technical and abstract implications of horary practice, such as planetary parts, midpoints, nodes, and harmonics in terms of horary charts, as well as the relationship of horary charts to dreams, archetypes, and other psychological concepts. I'm confident, however, that those of you who have an essential understanding of these points will be able to integrate them with the horary art without much difficulty.

## INTRODUCTION

## 1. ORIGINS

The ancient study of astrology is fundamentally a system of knowledge based upon the idea that a connection exists between the movements of celestial bodies and human life on earth, both on collective and individual levels. Exactly what this connection is and how it operates are questions yet in the realm of philosophical speculation; nothing can be either proven or disproven by the observations accumulated to date. Nor is there direct evidence of just how ancient the study and practice of astrology is: astrological observations have been made and recorded by man as far back in time as historians and archaeologists have been able to penetrate.

Many books have been written on the history of astrology, from many points of view. They all agree on one point at least: for some mysterious reason astrology has always captured the popular imagination, despite repeated attacks by critics from all quarters. In some ages throughout history astrologers have been the most respected and influential people of their time; in others they have been looked upon with contempt. But every time serious interest has appeared to be finally dying out, it has suddenly sprung forth anew, provoking the minds of an entire new generation.

Astrology was probably first used as a device for attuning the rhythms of collective human activities with the daily solar cycle-the cycle of day and night, corresponding with activity and inactivity-and with the annual solar cycle, the cycle of the seasons. Early man must have been impressed with seasonal changes in the relative lengths of days and nights as well as with seasonal changes in climate. By attuning itself with these natural cycles, the community was able to prepare for the hardships of the winter months by cultivating and gathering foodstuffs and fuel, or by migrating.

Ancient peoples at times have gone to great effort and expen e to observe and predict celestial cycles with great accuracy. Some of the "observatories" they left behind, such as Stonehenge and the Great Pyramid, are evidence that their interest in these cycles extended well beyond the simple determination of equinoxes and solstices. Peter Tompkins, in Secrets of the Great Pyramid, and John Michell in The View Over Atlantis and City of Revelation have recorded evidence that the peoples who constructed these vast monuments had at their command a truly incredible mathematical and engineering expertise. Ancient Chinese and Egyptian annals indicate that their early civilizations employed an astrological model in establishing and preserving their states and nations. Their governments centered around the rule of the king in conscious imitation of the sun's sovereignty in the heavens.

Astrology was part of the teachings of the "Golden Age" in Greece as well. The discoveries of Pythagoras in geometry, mathematics, and music have definite astrological connections (identical mathematical ratios produce both the musical scale and the astrological aspects), and the concept of a correspondence between the microcosm of man and the macrocosm of the universe was central to ancient Greek philosophies. Hippocrates must have considered it important in the practice of medicine-he has been reported to have said that a physician who is not also an astrologer is not worth his salt.

Natal astrology, today the most popular branch of astrology, was born around the sixth century b.c., when individual horoscopes first began to appear publicly. The counsel of the astrologer, who had been previously privy only to kings and high officials, became available to anyone who could pay the fee. Casting and delineating individual horoscopes became a lucrative enterprise, and the numbers of natve and vain individuals seeking to have their fortunes told attracted many a charlatan to the astrological ranks. Their activities ultimately led to the ridicule of the work of serious astrologers.

In the first century A.D., Ptolemy wrote the Tetrabiblios, a compendium of all the popular astrological knowledge of his age. Although it was written at a time when astrology was again under attack and in disfavor, astrologers have based their studies on it for the past two millennia. Since then many
famous scientists, including Sir Isaac Newton, Johannes Kepler, and Francis Bacon have studied astrology and considered it a serious and valuable pursuit. From 1200 A.D. until the seventeenth century it was the most respected of all the "sciences." More books were published on the subject of astrology than on any other single subject, and astrologers enjoyed high positions, both in court and in the universities. The advent of the "Age of Reason" in the eighteenth century brought about astrology's most recent period of disgrace, but interest in the correspondence between the affairs of the heavens and the affairs of men has remained an area of keen interest for the last two hundred years.

## 2. WHAT IS HORARY ASTROLOGY?

Men and women throughout history have had a curiosity to know what was in store for them. To fulfill this desire, there have always been soothsayers and fortunetellers, as well as individuals who claim to be able to read the future in the stars. While the birth chart (or horoscope) and its progressions and transits did provide astrologers of the past with the basic tools of the trade, answers to simple, mundane questions posed by clients could not be answered quickly and reliably using these tools alone. At some unknown time and place someone came up with a simple premise to solve, or at least begin to solve, such a problem: namely that the time a question is asked symbolically contains its answer. If one can decipher the symbolism, the answer will be revealed to him. Horary (literally: "of the hour") astrology is founded upon this premise. An astrological chart cast for the moment that a question is asked, or the time a particular crisis comes into clear and conscious focus, contains an answer or resolution. We know that the ancient Chinese based their oracle, the 1 Ching, on this concept; they could have developed it along astrological lines as well. The oracular use of the medieval European Tarot, supposed to have very ancient Egyptian origins, is also based essentially on the same premise.

William Lilly (1602-81) is generally given credit for the invention of horary astrology. Lilly was probably the greatest astrologer of his time, catapulted to fame by predicting both
the Great Plague of 1665 and the Great London Fire of 1666. There is no direct evidence of the practice of horary astrology or how long it existed before Lilly; in his Introduction to Astrology, published in 1647, Lilly does not claim to have invented the system, nor does he directly acknowledge his sources other than referring to them as "ancients" and "Arabians." We do not know how the many rigid techniques and rules of the horary art were formulated, though most astrological historians do accredit the entire system to Lilly. I suspect that Lilly integrated the older philosophies and practices into a consistent and reliable method.

The origin of horary astrology may be difficult to ascertain, but it is clear that not much progress has been made since Lilly used it to perfect his fortunetelling, predictive abilities. It is still being used in basically the same way and for essentially the same purpose: to foretell the future and answer simply and quickly mundane questions such as, "Should I invest in John Smith's business or go to Europe and enjoy myself?" In spite of the tremendous global, social, political and individual transformations of the past three centuries, the practice of horary astrology-its techniques, values, and goals -has remained unchanged.

The decision between making an investment and spending money on fun and relaxation is a very important and vital question, but the service an astrologer can perform for the individual in such a situation can be more than just to give an either/or answer; he can assist the person in understanding the true significance of the decision in terms of his or her development as a self-determining, integrated individual.

Every age requires its own approach to life-and its own approach to astrology. Today, humanity needs an astrology capable of giving poignant and significant meaning, purpose, and order to the frequent crises of our time. With a horary chart cast for the moment a particular crisis comes into clear and conscious focus, one versed in the horary technique can describe how a crisis may be approached so that the meaning and potential carried within the crucial situation may be actualized by the person experiencing it in a positive and healthy manner.

## 3. A NEW ASTROLOGY EMERGES

To meet the needs of the twentieth century, a new approach to astrology began to emerge in the 1920's. As far as I know, Marc Edmund Jones was the first modern astrologer to transscend, or at least to begin to transcend, the materialistic and often glamorized attitude that had surrounded astrology for centuries. His modern psychological approach to astrology, based on a mature understanding of philosophy, brought a fresh perspective to the ancient art-science.

Early in his astrological career Marc Jones met the composer/philosopher Dane Rudhyar. Rudhyar, like Jones, had a passionate interest in occult philosophy-they were both involved in H. P. Blavatsky's teachings and in the theosophical movement she initiated in 1875. Rudhyar, who had been more or less interested in astrology for several years before his first meeting with Jones in 1930, realized that the general type of astrology Jones was introducing could be integrated with the analytical psychology of C. G. Jung. In 1932 he began to write a series of pamphlets ("The Harmonic Astrology Series") elucidating a synthesis of astrology and Jungian psychology, and soon after he began writing articles for astrological magazines. Then, during 1934-35, Rudhyar wrote The Astrology of Personality. Finally published in 1936, it was the first important large-scale astrological work to present the history and practice of astrology in terms of twentieth century philosophy and psychology.

Today Rudhyar terms his approach to astrology "humanistic or person-centered." It bears distinct similarities to the humanistic and person-centered psychologies that have their roots in Jung's psychology. The approach differs from what Rudhyar calls the "event-oriented" approach to astrology in many ways. The traditional astrologer is interested in predicting future events and delineating or analyzing character; the humanistic astrologer is concerned with the birth potential of individual men and women and the actualization of this potential. According to the traditional view of astrology there are naturally good and naturally bad planets and signs; the combination of good and bad configurations in an astrological
chart determines whether the chart is essentially "good" or "bad." The person-oriented astrologer believes that all astrological symbols (and all symbols for that matter) transcend the dichotomy of good/ bad. From this perspective the various planets, signs, houses, etc., of an astrological chart symbolize distinct yet interrelated functions, essential in any organism. None can be singled out as being better or worse than any other, provided, of course, that their activity and growth are balanced. All astrological factors are considered to have a place and function within a whole system.

One of Rudhyar's great contributions to astrology is his emphasis on the central importance of cycles and what he calls the "cyclic process." Traditional astrology is based on linear thinking; humanistic astrology is founded upon a holistic or cyclic understanding of growth and life. To my mind, an understanding of the cyclic process and the perception of all astrological factors as wholes is an essential part of any approach to astrology.

Humanistic astrology holds that the meaning of any individual astrological factor is inherent in and dependent upon (1) the nature of the frame of reference (the process) as a whole-the houses, signs, planets, etc.; and (2) its sequence in this whole process; its relationship to the other individual parts of the same frame of reference. An astrological factor has meaning only because it is a part of a larger cyclic process. The following process can be applied to all astrological factors.

The beginning of the cyclic process is a moment of unity and ONENESS which immediately ceases to be a manifestation of external unity and becomes a process. This process is twofold: involutionary and evolutionary. The involutionary hemicycle succeeds the beginning and involves life into form or matter. During this phase, life becomes drawn into the building of organisms and structures and the continual complexification and differentiation of individual structural patterns. This is the process of the One becoming the Many.

The middle of the process begins at the point of repolarization, from the complexification and differentiation of struc-
tural patterns to the creative release of their contents. This repolarization usually involves some sort of crisis, and often the repolarization is not successfully accomplished. If the transition from the involutionary to the evolutionary hemicycle fails, eventual breakdown and disintegration of the psychological functions (or even of the entire organism) may take place. If, on the other hand, the process of repolarization is successful, the following phase will be one of growth in meaning and consciousness.

The axis which extends from the midpoint of the involutionary hemicycle to the midpoint of the evolutionary hemicycle also constitutes a "middle," where the involutionary process of differentiation and organic growth meets its apex and where the evolutionary process of conscious and social expansion meets its fullest expression.

The end of the process occurs at the moment of ingathering of the energies and fruits of the just completed cycle. It is a "seed moment" when all that has been actualized during the cycle is formulated into a highly condensed form, which will provide the structural patterns for the next cycle.

In the humanistic approach, horary techniques assume a much different meaning than in the traditional, event-oriented approach. Rather than using horary astrology to predict the future and to foretell specific events, the humanistic astrologer uses the horary chart to reach a deeper understanding of the crises individual men and women pass through on the path to wholeness. The humanistically oriented astrologer is concerned not so much with events per se as one's response to events and one's ability to grow as a result of both external and internal experiences. In an article entitled "Cycles, Aspects and Events," Rudhyar says:

Exact timing is bondage to events. Events matter little in themselves, except insomuch as they tell us symbolically how we have intruded in the order of the Universe. It is this order that matters . . . What happens at any particular time is of no great importance; it is what you are at any moment which counts. It is your orientation, your attitude to the Universe and its cycles which mark your growth-pattern and the way you are actual-
i7ing your birth-potential with your fundamental nature, innate yet only latent at birth.

The purpose of horary astrology is not to tell us what to do and when to do it, but to assist us in becoming selfdetermining individuals-more aware of the deeper meaning of our personal problems, decisions, and crises in terms of the evolution of our individual potentinlities. In The Practice of Astrology, Rudhyar suggests to one seeking advice through horary techniques that he

> increase his responsibility by making it as fully conscious as possible by relating it to the universal purpose or "plan" of life ing conscious of the a new adjustment of [his] efforts in becomthe factors implied in the issues.

The procedures and techniques outlined in this book often conflict or differ radically from the conventional, event oriented practice of horary astrology that has been passed along through the centuries. This is a book that presents a way in which horary astrology can be approached and utilized by the humanistically oriented astrologer.

## 4. AN ASTROLOGICAL $\boldsymbol{\text { CHING}}$

There is an obvious parallel between the horary art and the ancient Chinese oracle, the / Ching. Both horary astrology and the I Ching can be used as oracular techniques for the elucidation of personal problems, crises, and confrontations. An astrological horary chart cast for the time of an inquiry contains its resolution; an I Ching hexagram derived from the casting of yarrow stalks or three coins six times can reveal the best path of action for an inquirer.

The functions of these two oracles transcend the strictly empirical, causality oriented analytic habits of our modern scientific mentality. The I Ching and its function, however, have been investigated by several modern researchers, and it is from the perspective of their theories that we can best approach the question "What makes horary astrology work?"

In his foreword to Richard Wilhelm's translation of the I Ching, C. G. Jung wrote about the I Ching and astrology:

In order to understand what such a book [the I Ching] is all about, it is imperative to cast off certain prejudices of the Western mind. It is a curious fact that such a gifted and intelligent people as the Chinese has never developed what we call science. Our science, however, is based upon the principle of causality, and causality is considered to be an axiomatic truth . . . . The axioms of causality are being shaken to their foundations', we know now that what we term natural laws are merely statistical truths and thus must necessarily allow for exceptions . . . . If we leave things to nature, we see a very different picture: every process is partially or totally interfered with by chance, so much so that under natural circumstances a course of events absolutely conforming to specific laws is almost an exception.

Jung goes on to speak of the processes operative in the I Ching and astrology:

Thus it happens when one throws the three coins, or counts through the forty-nine yarrow stalks, these chance details enter into the picture of the moment of observation and form a part of $\mathrm{it}-\mathrm{a}$ part of this is insignificant to us, yet most meaningful to the Chinese mind. With us it would be a banal and almost meaningless statement (at least on the face of it) to say that whatever happens in a given moment possesses inevitably the quality peculiar to that moment. This is not an abstract argument but a very practical one. There are certain connoisseurs who can tell you merely from the appearance, taste, and behavior of a wine the site of its vineyard and the year of its origin. There are antiquarians who with almost uncanny accuracy will name the time and place of origin and the maker of an objet d'art or piece of furniture on merely looking at it. And there are even astrologers who can tell you, without any previous knowledge of your nativity, what the position of the sun and moon was and what zodiacal sign rose above the horizon in the moment of your birth. In face of such facts, it must be admitted that moments leave longlasting traces.

Jung called the acausal principle that linked events in time and space, but not in cause, "synchronicity." In terms of horary astrology the time when a need arises in the mind and psyche of an individual also contains its response-which can be interpreted through the symbols of an astrological chart cast for that moment. From the humanistic approach this response reveals the potentialities of the moment and suggests how they may be best actualized.

A horary chart cast for the moment a particular need arises in the consciousness of an individual does not necessarily tell
one exactly what to do. The horary chart is a symbolic statement that must be interpreted, and it may be interpreted on different levels of meaning. Interpreting the chart cannot be done by formula. It requires a keen understanding of life and a familiarity with the whole life-pattern of the individual making the inquiry. There are no right and wrong answers, and no horary chart should be considered good or bad. The horary chart is a pregnant symbol of the whole situation which involves the person seeking advice.

In the following pages I present in outline form a humanistic approach to the interpretation of a horary chart. The statements made in this presentation of the interpretative process should not be taken as final words on the subject, but rather as a guide to the application of this highly potent technique for counseling and self-actualization.

## STEP ONE:

 THE INQUIRY
## 1. WHY SEEK HELP WITH HORARY ASTROLOGY?

All of us have problems or crises that elude our understanding. Whether we are considering a change of residence, the possibility of exploring new career opportunities, or the budding of a new interpersonal relationship, in each case it is often apparent that a decision must be made; but the harder we try the more confused the situation becomes. The involvement of too many unknown factors may preclude logical, rational decisions, or may inhibit our objective perceptions of the situation as it is and as it should be. It is in circumstances such as these that horary astrology can serve a vital function by revealing the celestial or cosmic factors and patterns in a confused and frustrated situation.

It should be made clear in the beginning that a horary chart cannot tell you what to do; it can, however, clearly describe the various factors behind the situation, how they interact, and what may be the result of a certain action. In The Practice of Astrology, Dane Rudhyar states, "A horary chart does not say: do this! It presents a symbolic image of all the essential factors in any critical situation, an image from which purpose to the patterning of these factors can be revealedif the interpreter is able to see this purpose emerge Horary astrology is not a savings of effort, or intelligence; it is a reorientation of effort and intelligence. It does not make life easier, but man more conscious of the total implications of the difficult turning points at which he has to make choices." ${ }^{1}$

Horary astrology is actually a tool for the conscious acceptance of responsibility; responsibility in terms of one's relationships with others, as well as one's own internal or spiritual development and actualization. By helping us to understand what is going on in our lives, horary astrology can assist us
in making decisions that arc most meaningful in terms of our current development as individual, creative human beings.

## 2. WHEN TO USE HORARY ASTROLOGY

Many well-meaning people become addicted to the use of oracles without really understanding their purpose. Oracles (including horary astrology, as well as the I Ching, Tarot, and other forms of "divination") should be consulted only after one has seriously attempted to resolve a problem or situation, or to gain a deeper insight into a personal crisis, by conventional, rational means. Oracles are not meant to replace human judgment and the human decision-making processtheir purpose is to assist in the deeper understanding of problems, situations, and crises that baffle the rational approach. Their function is to help intelligent men and women in the search for the deeper meaning underlying life's important situations, decisions, and turning points.

The circumstances in which horary astrology can be used in a purposeful manner fall into three general categories:

## I. at times of personal crisis.

Growth is inseparable from change and crisis. Growth implies continuous motion, and change is the universal constant that, from a fixed perspective, represents a crisis demanding constant reorientation of consciousness in order to meet the needs of new conditions, challenges, and experiences. A horary chart cast for the time a particular crisis comes into clear and sharp focus in the conscious mind of the inquirer reveals how the creative potential within the crisis may be actualized in a balanced, growth-promoting manner.

In order to cast a horary chart, the time affixed to this type of situation can be either (1) the moment the crisis comes into a clear enough focus so that the person can describe it in simple terms, or (2) the moment that the astrologer ${ }^{2}$ understands the circumstances of the particular crisis. The latter time is usually preferable because by relating the crisis to an astrologer the inquirer ${ }^{3}$ is able to gain new, more objective insights into the matter. Also, this is the time that the person
is actually taking a definite, outward action to come to terms with the situation-through the simple act of asking the help of another person. Often, of course, both times may occur simultaneously. For instance, the person experiencing the crisis may also be the astrologer. There are also instances in which the focus of a problem or crisis may initially emerge while the person is discussing a situation with an astrologer.

## II. WHEN A DEFINITE DECISION IS TO BE MADE.

This set of circumstances differs from the above insomuch as the basis of the inquiry is a decision rather than a crisis. The differences may be seen in this way: a crisis is an intense, dynamic, and highly charged set of experiences of an inner, psychic, and in some ways external nature that, when coming to a head, creates a major turning point in the life of the individual. The key words here are "reorientation of consciousness." A decision, on the other hand, is a judgment or choice made by the individual concerning a certain situation and does not necessarily compose a major turning point in his or her life. One may decide, for instance, to go to Europe. The key words here are "judgment" and "choice."

Crises and decisions are often interlaced. A student, for instance, may decide to study parapsychology because of a psychic experience connected with a past crisis (perhaps the death of a parent), or a person may experience a deep crisis connected with a trip to Europe. For our purposes, however, such fine hairsplitting is not required.

The moment to use for the casting of a horary chart for a decision is the moment when the inquirer has formulated the decision clearly enough to write it down or the moment when he states it in clear terms to an astrologer.

## HI. TO SOLVE A DEFINITE PROBLEM.

Can one solve a mathematical problem or predict the winner of an election with the aid of horary techniques? This question has met with some controversy among astrologers and calls into question the basic validity of horary astrology. Most believe that only inquiries directly related to the inquir-
er's life-experiences are relevant. In Problem Solving by Horary Astrology, Marc Edmund Jones states. "It is obvious that innumerable questions cannot be answered by a horoscope. Thus, the inquiry, . . . 'What is the weight of my automobile?' [is] wholly beyond the scope of the stellar art To ask the question, therefore, 'What is Mr. Smith's financial rating?' is silly, but the query, 'Will Mr. Smith be able to finance the venture?' is quite legitimate. ${ }^{\prime 4}$ The idea here is to keep the inquiry relevant to your experiences.

Inquiries concerning particular problems, while most often of interest to traditional, event-oriented horary astrologers, are not of great interest to us here, since the purpose of this work is to introduce the use of horary techniques as a purposeful tool in person-oriented counseling.

## 3. POSING THE INQUIRY

The most important step in the entire horary process is the actual formulation of the inquiry. There are two basic requirements essential to the usefulness of an inquiry, and the formulation of the query largely determines its response. First, the problem should be well formulated in the inquirer's mind and the wording of the inquiry should be well defined and clearly stated. Second, the inquirer's intentions should be sincere and honest. That is, the problem behind the inquiry must actually exist and the inquirer must sincerely desire the help of the oracle. Inquiries based on curiosity or mere amusementseeking produce useless responses or no responses at all. One should never repeat the same inquiry under identical conditions in hopes of receiving the type of response one desires

Since each of the three basic types of inquiries discussed above demands its own approach to its phrasing, we'll discus: this important phase of the horary art as it relates to eact of them separately.

## I. AT TIMES OF PERSONAL CRISIS.

It is often difficult to describe in simple terms the various facets of a personal crisis, largely because of the emotional and individual elements involved in critical situations. Mean.
ingful responses may be obtained through horary techniques, however, if an inquiry is properly made and done at the right moment.

## A. When the inquirer is also the astrologer. The time

 to use for casting this sort of horary chart is the moment you become consciously aware that a crisis is coming to a head. Many crises are relatively easy to pinpoint in terms of time. This is usually the case with crises that are founded upon more or less external causes (such as the death of a parent, the loss of a job, etc.). Many other crises, on the other hand, are not so easy to deal with in this fashion. Crises of a very internalized nature (such as those dealing with creative and spiritual growth) are particularly difficult to work with if the person who is experiencing the crisis is also the one who will be acting as the astrologer. Because the person in this situation is so subjectively involved with its outcome, it may be best to bring in a second person to act as the astrologer. For this reason, we'll confine our discussion here to phrasing an inquiry that concerns a crisis connected with an external situation.In phrasing this sort of inquiry, the potential of the situation should be emphasized. If you have suddenly realized, for instance, that your marriage is breaking up, you can phrase your inquiry in the following way: "Now that I realize that my marriage must be transformed (for whatever reason), how can I best rechannel my energies in order to best actualize my potential as a creative, individual person?"

If you have just realized that your marriage is in trouble and not actually about to be dissolved, you may want to make an inquiry for deeper insight concerning what you can do to re-establish marital harmony. "How can I best assist in bringing harmony into my marriage?" is one possible inquiry. A more specific question is even better. "What would be the result if I devoted more time to my family?" may be more to the point.

It is always best to write your inquiry down when it is clearly formulated, not only to have a permanent record of it but also to help focus and objectify the situation in your mind.

There are obviously many different personal crises that can be the basis of this sort of inquiry: any crisis that involves your relationships with others (interpersonal, professional, political, academic, etc.), for instance, as well as crises regarding physical and economic situations.

## B. When the inquirer and the astrologer are not the same

 person. If the matter is connected with an external situation, the procedure is generally the same as the one described above, except that the time for which the chart is cast is the moment that the astrologer comes to a clear understanding of the nature of the crisis and its various elements.Horary techniques are of great value to the psychologist, counselor, social worker, or analyst who works along personoriented lines. Often people come to such professionals with definite problems or facing a specific crisis of one type or another. The horary chart is a valuable tool at these times. The pattern of the many various factors involved in the situation is a "gestalt"; particularly crucial factors or relationships can be determined and observed far more rapidly and reliably through the use of horary techniques than with the more conventional tools of counseling alone.

Often deeper, internalized crises emerge to the surface of a person's consciousness while he is actually consulting the person who will be playing the role of the astrologer. Under such conditions two possible moments may be used for casting the horary chart. The first is the moment that the astrologer understands the nature and significance of the crisis as a whole (even when the inquirer hasn't come to terms with it yet). A chart cast for this moment can be interpreted in terms of the various factors involved, indicating how the counselor can best assist the inquirer in actualizing the potential presented by the crisis in a positive manner. One may also use the moment when the inquirer himself makes a definite breakthrough or in some way comes to terms with or realizes the existence of a highly internalized crisis. This moment may be minutes or months before or after the astrologer understands the situation as a whole. A chart for this moment is generally more person-oriented than the first type because it is based on the moment that the inquirer penetrates (or at least begins to
penetrate) the meaning of his or her critical situation. It can serve as a map for the person's emergence into a new realm of experience and into a new view of the world and himself or herself as a person. It reveals the type of adjustments that should be made on the path to wholeness.

Inquiries based on internal crises connected with personal growth and the emergence of or coming to terms with complexes ${ }^{5}$ are the only instances in which it is not always necessary to put the inquiry in writing. In some circumstances the astrologer may cast a chart for the moment he or she understands the significance of the critical situation as a whole, without spending the time to find the words to describe it on paper. A word of caution is in order here: an astrologer should never attempt to interpret a horary chart if he or she has either forgotten, or does not thoroughly understand, the wholeness of the horary situation.

## II. WHEN A DEFINITE DECISION IS TO BE MADE.

Sometimes decisions may come easily and naturally; at other times we may be completely baffled. Horary techniques can be very useful in helping to understand what baffles us. In discussing how to formulate inquiries having to do with personal decisions we'll consider two basic types of decisions: optional decisions and either/or decisions.
A. Optional decisions. These are decisions that ultimately rest on the initiative of the individual: to act or not to act. Optional inquiries should always be stated in terms of a specific action and the results of the action. Horary astrology is not fortunetelling; it is a tool for gaining metalogical insight into the nature of human situations. Make your inquiry to the point and phrase it in terms of the meaning and/or result of a definite personal action. Here are some examples of inquiries:
"What would result from my going to Europe?"
"What would be the meaning and result of my returning to school to obtain a Ph.D.?"
"What would be the result if I were to go into partnership with John Smith?"
"What would be the meaning and result of my marrying Jane Doe?"

Avoid questions like "Should I marry Jane Doe?" or "Should I go to Europe?" The horary chart, or any oracle for that matter, can't make the decision for you, but it can describe the quality of the results and the deeper meaning of a definite action within a well-defined context.

Once you know what the decision involves and have it clearly formulated in your mind, you should write it down on a card or in a notebook, along with the time of its writing, for which the horary chart is to be cast. The chart is valid only for the question asked at that moment.
B. Either/or decisions. There are often times when one has to make a decision between two mutually exclusive possibilities. You may, for instance, have a limited amount of time, funds, or energy and find yourself torn between two projects, both of which hold promising potential. In making this type of inquiry, state your question in terms of the result and meaning of a definite action on your part, rather than asking the chart to make the decision for you. This means avoiding questions like, "Should I write a book on horary astrology rather than one on progressions and transits at this time?" The correct inquiry for this type of decision would be something like: "What would be the result and meaning if I devoted my limited time and energies to writing a book on horary astrology before writing one on astrological progressions and transits?"

Here are some other examples of inquiries for either/or decisions:
"What would be the result if I went to work for Mr. Jones rather than going into business for myself?"
"What would be the result and eventual meaning of my dropping out of school in order to learn directly through experience rather than holding on until I get my degree?"
"What would be the result and meaning of my leaving New York and the life I've built up here in order to move to California?"

Always state exactly what you mean and avoid covering up
for the real motive behind your inquiry. The person who is having difficulty deciding whether or not to drop out of school, for instance, may not really be as turned off to school as he thinks. He may be disenchanted with his major and perhaps his query should be: "What would be the result and meaning if I changed my major from business administration to graphic arts?" The person who is torn between the decision of whether or not to leave New York and the life and friends he knows there in order to move to California may have more than that on his mind. His health may be endangered and he may actually be seeking a place with a different environment. Perhaps the firm he is working for has placed him in a boring position with little chance for advancement and he really wants to find a new employer or a new career.

The actual procedure of making the inquiry for either/or decisions is identical to that discussed above for optional decisions.

## II. TO SOLVE A DEFINITE PROBLEM.

Often people wish to use horary techniques to assist them in solving particularly elusive problems that are neither personal crises nor decisions. A scientist, for instance, may be trying to make sense out of a mysterious set of laboratory results. Another person may be concerned about an election -or whether or not an official will leave office before his term is up. Horary astrologers are not in complete agreement about how to handle such questions. To my mind the real crux of the matter lies in the phrasing of such inquiries.

The scientist having difficulty making sense out of the results of his research project could base his inquiry on either an optional decision or an either/or decision. He could phrase his inquiry as an optional decision in this way: "What would be the result if I continued to pursue my research along the same lines I have been?" Or: "What would be the result if I began to approach the problems I'm encountering in my project in such-and-such a way?" He could make it an either/or decision by stating it in this way: "What would be the result if I approached the problems I'm encountering in my project along the lines of method A rather than method

B?" If the scientist is really at a loss, he could simply phrase his inquiry in this manner: "How can I best approach the problems I'm encountering in my research project?" This type of inquiry is generally valid, but it is naturally less reliable than an inquiry referring to a definite action on the part of the inquirer. In some situations it may be the only recourse.

The person wanting to know whether or not the official will complete his term in office is in a more complicated position because ordinary individuals are usually impotent in such situations. If we consider the country, corporation, etc., that the official administrates as a collective person, however, this sort of inquiry takes on a new meaning. ${ }^{8}$ The person's desire to know represents a very real collective need: in this case, for information on the course of the government and whether the uncovering of political scandals and resulting talk of impeachment or resignation will produce any results. The moment that this need becomes focused in the individual's consciousness is significant, in both individual and collective terms. Because they represent a national crisis or decision, inquiries like "What will be the result of such and such an election?" or "What will be the result and meaning of present governmental investigations?" or "Will the President leave office before his term is up?" can be valid. Nevertheless, interpreting a chart for this sort of situation, as we will see later on, is by no means an easy task!

Inquiries based on more technical problems, such as: "When will Comet Kohoutek return?" or "What will be the price of a gallon of gasoline in 1985?" or "When will I be able to afford a Porsche car?" are of dubious value. When valid, they require quite exceptional skill to be interpreted.

## STEP ONE

Notes

1. The Practice of Astrology by Dane Rudhyar (Penguin, 1970). Chapter XII, "The Significant Use of Horary Techniques," is one of the few pieces published by Rudhyar on horary astrology.
2. The astrologer is the person who casts and/or interprets the horary chart. The role of the astrologer may be played by the inquirer himself, or by a professional astrologer, à psychologist, analyst, counselor, or anyone who fulfills this function.
3. The inquirer is the person who poses the question or makes the inquiry. Also referred to as the querent.
4. Problem Solving by Horary Astrology, by Marc Edmund Jones (Sabian Publishing Society; 1943 and 1966), is the best guide to horary astrology from its traditional approach.
5. One can also use this approach when dealing with psychological complexes. The word "complex" was first used in psychological practice by C. G. Jung to describe a highly charged set of emotional experiences and crises that constitute a sensitive area in the psyche. In some ways complexes may be thought of as open wounds that, if touched, result in pain. In order to avoid the occurrence of unpleasant feelings, certain experiences are repressed by the conscious mind. They become residents of the unconscious, emerging from time to time and generally affecting one's habits, actions, bebavior, decisions, and life-style in a manner of which the conscious mind is not usually aware. There are probably as many types of complexes as people (though they tend to follow archetypal patterns and forms), and the discovery and comang to terms with psychological complexes play important (x)les in many forms of psychotherapy. For more information
the interested reader is referred to C. G. Jung's Modern Man in Search of a Soul (Vintage; 1966) or Jolande Jacobi's Complex/Archetype/Symbolin the Psychology of C. G. Jung (Princeton; 1959).
6. Of special interest along these lines is Dane Rudhyar's recent book on the birth chart of the United States as a collective person, The Astrology of America's Destiny (Random House; 1974).

## STEP TWO: INITIAL CONSIDERATIONS

Once the inquiry has been made and the horary chart has been cast, ${ }^{1}$ the next step is deciding whether or not the chart is "radical," or fit for judgment. Traditional astrologers believe that not all horary charts (including those erected for properly phrased inquiries) are suitable for interpretation. Suitable charts have been distinguished from unsuitable ones traditionally by the four conditions discussed later in this chapter.

Horary astrology has been founded upon an unusually large number of rules. The first and most popular rule of traditional horary astrologers is: Follow the rules-any deviation from them is doomed to failure! This attitude was probably quite adequate for ancient and medieval astrologers primarily concerned with quick "yes or no" answers to mundane questions. We live in an age with different needs. This is a time in which individuation is emphasized; the focus is on personal and spiritual growth and crises of consciousness. ${ }^{2}$

Five hundred years ago it was heretical, if not outrightly criminal, to talk of individual and spiritual evolution (that's why the alchemists, the Rosicrucians, and numerous other "mystical brotherhoods" were forced to operate in secret). The king and his rule were supreme. To violate it was treason, which meant death. Exceptions to the king's rule were threats to his absolute power. Is it any wonder that medieval astrologers were largely predisposed to make rules and assign rulerships to every element of astrological symbolism? They used the strict "good/evil" value system extensively, dichotomizing the components of every astrological factor: planets, signs, houses, aspects, nodes, hundreds of fixed stars, etc.

Today humanistic astrology is just as concerned with the exceptions as with the rules: there are always exceptions to
rules and they must be significant. The four traditional conditions for judgment which follow can be seen from this new perspective-not as absolute rules that must be blindly obeyed, but as more or less general precautions. They can be used intelligently, or, when the situation warrants, discarded.

1. When one of the first or last three degrees of a sign is on the ascendant. ${ }^{8}$ Traditionally, when the first, second, or third degree of any sign is rising (Figure 1), the question is either premature or inadequately stated. When the twentyseventh, twenty-eighth, or twenty-ninth degree of a sign is on the ascendant (Figure 2), the inquiry was posed too late-it


Figure 1


Figure 2
is no longer valid because the problem or decision in question has already been acted upon, is already a reality, or for some other reason is no longer a possibility.

It may not always be wise, however, to throw out the chart in this situation. There are at least two instances in which it is all right to interpret the chart in spite of the fact that one of the first or last three degrees of a sign is on the ascendant.

The first instance is when one of these degrees is exactly (within one degree) conjunct, opposed, square, trine, or sextile to a planet or angle in the birth chart of the individual. In the charts on the following page for example, two degrees Leo is on the ascendant of the horary chart and the inquirer's natal Venus is either one, two, or three Leo (conjunction); Aquarius (opposition); Scorpio or Taurus (square); Aries or


Horary Chart


Birth Chart

Sagittarius (trine); or Gemini or Libra (sextile). This may also be the instance when a progressed planet is involved in a similar way. The significance of such contacts is described in detail in Step Five; generally, it means that the function of the natal or progressed planet so aspected is intimately involved in the resolution of the inquiry.
This traditional practice may also be overruled when the significance of the degree on the ascendant is particularly related to the nature of the inquiry. The most immediate way to determine this is by using the "Sabian symbols," a procedure discussed in Step Four.


Horary Chart
2. When Saturn Is in the Seventh House. Because Saturn is "the Great Malefic" of traditional astrology, when it is in the seventh house (which rules, among other things, the astrologer), as in the diagram above, it is said to impair or distort
the judgment of the astrologer. Thus, any advice he or she may give is liable to be inaccurate. This is also said to be the case when Saturn is in the first house (the house of the inquirer) if the astrologer and the inquirer are the same person.


Birth Chart

However, if the degree occupied by Saturn is contacting a planet or angle of the astrologer's birth chart, or the birth chart or progressed chart of the inquirer, the horary chart can in fact be meaningful. After all, there are really no such things as good and evil planets. While it is true that often Saturn symbolizes obstacles in one's path, these obstacles can and should be met as challenges, rather than retreated from and feared. Another instance when Saturn's location in the seventh house does not necessarily disqualify a chart is when the inquiry is based on a seventh house matter (marriage, interpersonal relations, etc.).
3. When the Moon Is Void of Course. If the moon does not make at least one major aspect (conjunction, opposition, square, trine, sextile, semisquare, or sesquiquadrate) before it leaves the sign it occupies in the horary chart, it is said to be "void of course." The moon symbolizes adjustment and the basic focus of the inquiry, and it is traditionally believed that nothing new can come into the situation (and nothing will "happen") if the moon is void of course.


Moon Void of Course

An exception can be made in such a situation when the Imoon of the horary chart is contacting a planet or angle in the inquirer's birth chart or progressed chart, or if the situation is not dependent on something external "happening."
4. When the Moon Is in the "Via Combusta" \{the Fiery Road). The Via Combusta is said to be a group of extremely dangerous fixed stars that is said to be found between fifteen degrees Libra and fifteen degrees Scorpio (in terms of the tropical zodiac). ${ }^{4}$ The moon spends about three consecutive days in this area every lunar month. Rejecting a horary chart when the moon is in the Via Combusta is the only of the four considerations that has been consistently disregarded by at least some horary astrologers. This rule is a holdover from the days when the sign Scorpio was dreaded and universally regarded as the "worst" sign. The practice of disregarding horary charts when the moon occupies an area of the sky that was once believed to be a dangerous zone is obviously totally inconsistent with a humanistic approach to the horary art. This stricture against judgment should always be ignored.

Here is an instance that clearly demonstrates that no rule is absolute and unrevisable. By blindly following the rules, most astrologers still consider the Via Combusta to be between fifteen degrees Libra and fifteen degrees Scorpio, even though this group of stars is now located, in terms of the ecliptic, between about five degrees Libra and five degrees Scorpio because of the precession of the equinoxes. The "fixed" stars actually move in a retrograde fashion from the perspective of the Earth at a rate of one degree every seventytwo years.

## Notes

1. A step-by-step procedure for casting the horary chart may be found in Appendix II.
2. Individuation (a term coined by C. G. Jung) is the process of actualizing and integrating the various facets of one's individual potentialities; it is the process of becoming whole.
3. The nature and meaning of the ascendant and other astrological frames of reference, including the angles, houses, and aspects, may be found in Appendix I.
4. A discussion of the tropical and sidereal zodiacs is included in Appendix I, Section 3.

## STEP THREE: THE WHOLE CHART

The first thing to consider in approaching the interpretation of an astrological chart is its over-all structure or gestalt. It gives a feeling for the potential of the situation as a whole and provides a starting point for the consideration of the many individual and interrelated factors that make up the whole situation and the whole chart symbolizing it. The procedure outlined below shows how this may be done.

## 1. WHOLE PATTERNS

Seven types of planetary patterns have been established, each representing a particular quality of a horary situation as well as the general approach to the situation that should result in a successful channeling of the potentialities contained within it. ${ }^{1}$ These patterns symbolize the essential structure of the matter at hand, and the positions of the individual planets within these structures represent potentialities that may be most readily fulfilled.


The Hemispheric Pattern

The Hemispheric Pattern has all planets located within approximately $180^{\circ}$ of the zodiac, with no more than two empts houses within the occupied hemisphere. The hemispheric chart involves a basic duality between the obvious and thr subtle, between what is manifest and what is underlying 01 intangible. A horary chart in the hemispheric pattern denote! a clear-cut situation, the occupied area representing the realr $\bar{r}$ of individual expression containing the inquirer's most ac cessible hopes and goals, his or her most readily available resources. The empty half symbolizes areas of experience tha either have already been integrated within the context of the horary situation or do not deal directly with it.

The midpoint of the two extreme planets in this pattern $i$ of particular importance-it is the pattern's center of gravity It represents the point where purpose is most focal in term: of the matter at hand, while the two outermost planets them: selves symbolize the limits of the conscious potentials ant energies involved.


The Funnel, or Wedge, Pattern
The Funnel, or Wedge, Pattern, also based on a twofold division, is in many ways a more dynamic pattern than the hemispheric. It is composed of a group of nine planets opposed by a tenth planet, the "singleton" that ideally opposes the main group's center of gravity (though this is by no means the usual case). The main group should be confined within half the circle with no more than one empty house in the group. The singleton may be composed of a conjunction of two planets.

This pattern (also called the "bucket" in Marc Edmund Jones's terminology) acts along the same principles as do funnels and wedges. The group of planets channels its dynamic energies and potential through the singleton, which focalizes and releases them. In a horary chart the funnel pattern represents a situation in which a single factor, or department of life, acts as an important release for varied potentialities. The house occupied by the singleton will hold the key for the fulfillment of the essential potential of the situation.


The Seesaw Pattern is another chart shape displaying dualism, this time in a most distinct form. Composed of two main groups of planets separated by at least two houses on each side and with no more than one empty house within each group, this pattern represents the active interplay between opposing principles. The formation should contain at least one close opposition; the nearer the two groups' centers of gravity are to opposition, the more intense and dynamic the situation may be. In a horary chart the seesaw pattern symbolizes a situation where opposing possibilities exist. To best fulfill the diverse potentialities in this sort of situation, one should try to see both sides and the various possibilities should be integrated within one's field of experience. In this way one overcomes the basic conflict represented by the seesaw.


The Cluster, or Bundle, Pattern

The Cluster, or Bundle, Pattern is based on division by three. All planets are located within approximately $120^{\circ}$. The cluster pattern represents a horary situation in which all conscious potential is confined within a narrow area of experience. Concentrated effort is usually the most successful path; the houses occupied by the massing of planets symbolize the areas of experience in which this effort should be made. The pattern's center of gravity and its inverse or opposite point represents the specific area of expression that should serve as a pivot or balance for sustained efforts made in fulfilling the situation.


The Open-Angle Pattern is formed when all planets are spread out through approximately $240^{\circ}$ of the zodiac-leaving the remaining $120^{\circ}$ empty. Ideally, the planets should be evenly distributed, with no more than one empty house. Here potentialities may be best actualized through an openness to the diversified or transcendental elements of the immediate. Here, again, the midpoint of the occupied area, along with its opposite point, can reveal the specific area of experience and activity that is most potent within the context of the horary situation.


The Tripod Pattern

The Tripod Pattern is based on the threefold division of the zodiac. All planets are contained within three distinct groups. In the most ideal instances, the center of gravity of each group forms a trine aspect $\left(120^{\circ}\right)$ to the midpoints of the other two groups. The number three symbolizes growth through understanding and the transcendence of duality through the synthesis of opposites. A horary chart with this formation carries the basic meaning of three, representing a situation that calls for the synthesis of various possibilities through growth and understanding.


Asymmetric Patterns are those that do not fit comfortably into any of the above classifications. They are often produced by what may be combinations of two or more patterns. A horary chart with an asymmetric pattern suggests that the situation at hand is very unique and that its experiences should play an important, though perhaps not easily deciphered, role in the inquirer's life.

## 2. FOCAL POINTS

Once the focal points, as defined in this section, have been recognized, they can be studied in terms of the signs, houses, and planets corresponding to the points involved.

## I. HEMISPHERIC EMPHASIS

A configuration in which all planets are located within one of the hemispheres produced by the horizon-meridian (see Appendix I, Section 1).


Eastern Hemispheric Emphasis
Eastern hemispheric emphasis, with all planets to the left of the meridian, represents a situation largely concerning the self and self-directed experiences. Western hemispheric emphasis occurs when all planets are positioned to the right of the meridian, representing the importance of relations with others. Upper hemispheric emphasis, with all planets above
the horizon, represents a situation in which an objective approach should be most fruitful. Lower hemispheric emphasis symbolizes the potentialities of the horary situation best being fulfilled through a eubjective, personal approach.

When only one planet is located in a hemisphere, it is considered a singleton in that hemisphere and should serve as a release for the energy generated within the other hemisphere (in this manner it acts in much the same way as a singleton in a funnel pattern).


Stellium

## II. STELLIUM

A stellium is formed when four or more planets occupy the same house or sign. The experience represented by the particular house and/or the activities symbolized by the sign should play an important role in the unfoldment of the horary situation. Since several functions are intimately involved within a limited area of expression, the area of the horary situation symbolized by the stellium may be complex or confus-
ing. The intense concentration of potential represented by the stellium can be a most valuable asset to the inquirer in the resolution of the horary situation.


Active Preponderance

## III. PREPONDERANCE

When five or more planets are found in one house expression or one zodiacal mode or element (see Appendix I, Sections 1 and 2), a preponderance of that factor is said to be represented in the chart. When there is an active preponderance (first, fourth, seventh, and tenth houses), the individual should seek to initiate new and individualistic experiences in connection with the horary situation. Reactive preponderance (with planets in the second, fifth, eighth, and eleventh houses) symbolizes a situation in which it is important for the inquirer to consolidate, focus, and learn from past experiences. A situation in which one should attempt to synthesize the various actions and reactions involved in a particular matter is repre-
sented by resultant preponderance (planets in the third, sixth, ninth, and twelfth houses).

Five or more planets in the cardinal signs of the zodiac (Aries. Cancer, Libra, and Capricorn) is a cardinal preponderance, representing a situation in which the individual should express himself through external action. Fixed preponderance (with planets in the signs Taurus, Leo, Scorpio, and Aquarius) represents a horary situation in which the individual should focus his or her personal energies toward a definite goal and attempt to understand the functions of the various factors involved in the situation. When there is mutable preponderance (with planets in Gemini, Virgo, Sagittarius, and Pisces), the inquirer should keep a practical and flexible mind, adapting to the demands of the situation rather than trying to change them to fit his or her own idea of what they should be.

Preponderance by fire (with five or more planets in Aries, Leo, and Sagittarius) symbolizes a situation that calls for a great deal of activity and vitality on the part of the inquirer. Preponderance by earth (with planets in Taurus, Virgo, and Capricorn) represents a situation concerning the practical, down-to-earth realities of life, and it is by concentrating on these realities that the inquirer should be able to best make progress. When five or more planets are in air signs (Gemini, Libra, and Aquarius) the chart has preponderance by air, and the individual should approach the situation by using his or her intellect to formulate concepts and ideas. Preponderance by water (Cancer, Scorpio, and Pisces) symbolizes a situation in which the inquirer should attempt to understand the basic unity of the situation through his or her creativity and intuition.

## IV. FOCAL PLANETS

When a planet is particularly focal in a horary chart, its related function will probably play a role in the development of the horary situation. A planet located on or very near an angle (ascendant, descendant, M.C., or I.C.) is considered focal and is referred to as an angular planet. The function of these planets and the meaning of the angles are integrated


Leading Planet
with one another and highly emphasized. A leading planet is the first to cross the ascendant after the time of the inquiry (i.e., the closest to the ascendant in a counterclockwise direction). It is an indicator of new forms of experience that should assist in the unfoldment of the horary situation.

## 3. PLANETARY FORMATIONS

Formations are composed when three or more planets are linked by aspects, bringing together the respective planetary functions that result in the emergence of a particular quality of relationship capable of generating valuable potentialities (see Appendix I, Sections 4 and 5).


The Grand Trine

The Grand Trine is composed when three or more planets are linked together by trines (being spaced at approximately $120^{\circ}$ intervals). It symbolizes a situation in which planetary functions are joined together in a harmonious, co-operative fashion. The functions symbolized by the planets linked by
the Grand Trine can contribute much to the fulfillment of the potential underlying the situation. The element of the zodiac involved is also significant; it will probably be intimately involved in the entire process of co-operative interactivity represented by the Grand Trine.


The T-Square

The T-Square is formed by two planets in opposition ( $180^{\circ}$ ) with a third forming squares $\left(90^{\circ}\right)$ to both. It represents a situation in which there is a special need for direct, dynamic action in order to release the tension (which, of course, can be a creative tension) produced by the opposition. The third planet, at the apex of the T-Square, is symbolic of the channel through which this action can be released. The direction that this energy should take depends on the functions of the planets involved (see Appendix I, Section 4) as well as the houses and signs occupied by the planetary bodies. The importance of the zodiacal mode of the planets is discussed below in the Grand Cross section.


The Grand Cross
The Grand Cross is composed of two T-Squares, having four planets spaced at intervals of approximately $90^{\circ}$ that form squares and oppositions to one another. This formation represents a horary situation with a highly focused purpose, involving a polarized crisis or confrontation. The zodiacal mode involved is of particular importance (as it is in the T-Square). In the cardinal mode, a Grand Cross or T-Square symbolizes a need to explore new possibilities and indicates that some basic issues of selfhood are in need of attention. A Grand Cross or T-Square in the fixed mode represents a situation involving the individual's inner structure and the development of ideals and a pattern for individual living. In the mutable mode, a Grand Cross or T-Square symbolizes a situation involving one's relations with others.

There are many more planetary formations. Some examples are: two planets forming a trine aspect $\left(120^{\circ}\right)$ with a third linked by sextiles $\left(60^{\circ}\right)$ to each; two planets in sextile, both forming quincunxes $\left(150^{\circ}\right)$ to a third; two planets forming an opposition with a third linked to one end by a trine and
to the other by a sextile. Such formations can be based on triangles, rectangles, or stars and can be regular or irregular in symmetry. The interested reader can find a more detailed explanation of such formations (in natal terms) in my $A$ Handbook for the Humanistic Astrologer (Doubleday; 1974).

## 4. THE LUNATION CYCLE

The cycle of relationship between pairs of opposite planets is another important source of information in the interpretation of a chart. The planets are traditionally classified into pairs (Mars-Venus, Mercury-Jupiter, moon-Saturn, JupiterSaturn, sun-moon). The sun-moon cycle, the most obvious and archetypal, is called the "lunation cycle" and produces the eight well-known phases of the moon, or the eight "solilunar types." ${ }^{2}$

The lunation cycle (and the cycles of relationship of the other planetary pairs of opposites) may be studied through divisions by two and four. The division of the lunation cycle by two results in two hemicycles. The waxing hemicycle covers the span between the conjunction of the sun and moon (the new moon) and the opposition (the full moon), completed in about fourteen days of earth time. In this hemicycle the moon runs ahead of the sun in terms of the zodiac and increases in light. It is a span of instinctual growth and action and the building of organic structures. Following the waxing is the waning hemicycle, from opposition to a new conjunction (that takes place about thirty zodiacal degrees past the prior conjunction). The waning hemicycle symbolizes the expansion of consciousness and the release of future oriented potentialities from the structures of the past.

Dividing these two hemicycles by two produces four quadrants. The first quadrant, from the new moon to the waxing square (when the moon is $90^{\circ}$ past the sun in the zodiac) represents the emergence of consciousness and instinctual, spontaneous growth. The second quadrant, between the waxing square and the full moon, symbolizes the building of a firm basis for expression through the construction of organic


First Quadrant



Third Quadrant


Fourth Quadrant
structures. The third quadrant, from the full moon to the waning square (when the moon is $270^{\circ}$ past or $90^{\circ}$ behind the sun in the zodiac), represents the release of the potential meaning contained within the structures built up during the waxing hemicycle and indicates the creative participation of the individual within a social whole. The fourth quadrant, between the waning square and the new moon, symbolizes the reformulation of social, collective, and spiritual ideals and represents the culmination of the cycle.

The eight soli-lunar types, as they apply to the interpretation of a horary chart, may be defined as follows:


New Moon

The New-Moon Type, with the moon $0^{\circ}$ to $45^{\circ}$ past the sun in terms of the zodiac, represents a situation with a keynote of emergence. In such instances the inquirer should seek to work along personal, instinctual, and immediate lines.


Crescent Moon

The Crescent-Moon Type, with the moon $45^{\circ}$ to $90^{\circ}$ past the sun in the zodiac, symbolizes a situation with a keynote of assertion. The individual can best channel his or her energies by challenging old forms of expression (remaining from a former cycle) and by breaking ground for the growth of new forms.

The First-Quarter Type, with the moon $90^{\circ}$ to $135^{\circ}$ past the sun in the zodiac, carries the keynote of action. This solilunar type represents a situation in which the inquirer can best use his or her energies through direct action and by laying foundations that will lead to the eventual actualization of the situation's potentialities.


First Quarter


Gibbous Moon

The Gibbous-Moon Type, with the moon $135^{\circ}$ to $180^{\circ}$ past the sun in the zodiac, has a keynote of expression. The individual here can begin to fulfill his potential by using his or her mental and associative faculties and through personal introspection and creativity.


Full Moon

The Full-Moon Type, with the moon $180^{\circ}$ to $135^{\circ}$ before the sun, carries the keynote of fulfillment. This soli-lunar type symbolizes a situation at its apex. The inquirer should approach the matter in an open and objective manner, with concern for the immediate.

All soli-lunar types occurring after the full moon refer to the release and re-evaluation of the experiences and consciousness acquired in the past, rather than a concentrated effort on building new structures.


Disseminating Moon


The Disseminating-Moon Type, with the moon $135^{\circ}$ to $90^{\circ}$ before the sun in the zodiac, has a keynote of synthesis. The individual here should attempt to assimilate the past and use structures built up in the past for the purpose of developing and promulgating new ideas and forms of consciousness.

The Third-Quarter Type, with the moon $90^{\circ}$ to $45^{\circ}$ before the sun in the zodiac, carries the keynote of reorientation. This soli-lunar type represents a situation that calls for the inquirer to rechannel his or her energies in a new direction and to apply universal principles to practical affairs.

The Balsamic-Moon Type, with the moon $45^{\circ}$ to $0^{\circ}$ before the sun in the zodiac, has a keynote of release. An individual involved in this type of situation can best channel his or her energies by bringing the cycle of activity to a logical and fruitful conclusion. This may be done by attempting to condense the basic meaning of the entire cycle in a significant form that can act as a seed for the coming cycle of experience.


Balsamic Moon

## 5. SOME TRADITIONAL HORARY TECHNIQUES

Several traditional horary techniques can be modified to meet the needs of the humanistic approach. The manner in which a humanistically oriented astrologer interprets the information derived from these techniques will usually differ radically from their conventional interpretation-we are interested in much more than the simple yes/no answers that traditional practice provides.

Some Terms Defined Since horary astrology deals with the most individualized types of experience, the primary frame of reference for the horary inquiry should be the circle of twelve houses. An important step in the process of interpreting a horary chart is the "location" of the house most closely connected with the situation behind the inquiry. This house is called the focal house. The fifth house, for instance, is connected with matters concerning creative expression and chil-


Significators
dren, the seventh house with intimate relationships and partnerships, and so on. The focal house is said to represent the basic contents of the horary situation, while the house directly opposing it, the co-focal house, symbolizes its outcome.

From the traditional point of view all planets but two (three in the cases of bi-rulerships) are neutral in a horary chart and should be more or less ignored-the exceptions are the significator and co-significator. The significator is the planet that rules the sign on the cusp of the focal house (see Appendix I, Section 5 for a list of planetary rulerships and an explanation of bi-rulerships). The co-significator is the planet that rules the sign on the cusp of the co-focal house. They are known collectively as the significators.
The lords of the focal and co-focal houses are usually neglected in traditional horary practice, but are important in the humanistically oriented approach. The lord of a horary chart is the planet that rules the focal house regardless of the sign on its cusp (see Appendix I, Section 5). For example, the


Lords
sun is always the lord of the fifth house, while any planet can be significator, depending upon the sign on the cusp of the fifth house which changes approximately every two hours. The co-lord is the planet that rules the co-focal house regardless of the sign on its cusp. The lords do not necessarily supersede the significators, but rather function on a dilferent level. The lord is associated more with the type of experience connected with the house, while the significator (and the signs on the cusps of the houses) can be seen to indicate the quality of energy that propels consciousness in the experiences symbolized by that particular house.

The ruler of the chart is often considered to be the planetary ruler of the sign on the ascendant. It is said to represent the inquirer.

The Yes/No Method Horary practitioners often employ a technique referred to as the "yes/no method." The traditional procedure for using this method is as follows: the focal house of the horary chart is determined, then the significator and the co-significator are taken to symbolize the inquiry and its outcome (Figure 3).

Conventionally, if the significators are forming an applying "favorable" aspect (a conjunction, trine, or sextile), the answer to the horary inquiry is "yes"; if they form an "unfavorable" aspect (an opposition or square), the answer is "no." If there is no major applying aspect between them, a technique called "the translation of light" (discussed later in this section) may be used.

From a humanistic approach we may consider the transSaturnian rulers when employing this technique (something very seldomly done in conventional practice), as well as expand the list of traditional aspects to include the more abstract types and assign different meanings to all the aspects.

A conjunction, sextile, trine, or quincunx between the significators suggests that a basic harmony underlies the situation and that its potential should be fulfilled, at least to some extent, with relative ease. If an opposition, square, semisquare, or sesquiquadrate links the significators, there may be obstacles and confrontations that must be faced. Contrary to traditional belief, however, this does not mean that the situation


Figure 3
should be dropped or that a particular experience should be avoided, but rather that there is a high degree of intensity involved and a positive, firm approach should release a great deal of energy and power.
Generally, then, aspects derived through the division of the $360^{\circ}$ of zodiacal space by two (the opposition, square, semisquare, and sesquiquadrate) are symbols of confrontation, often requiring a great deal of effort and attention on the part of the inquirer, nevertheless holding constructive potential if dealt with resolutely. Aspects derived through the division of the zodiac by three (the trine, sextile, quincunx, and semisextile) represent situations in which the flow between potentiality and actuality should be smooth. The conjunction, of course, is the result of no division at all and is perhaps one of the most positive symbols in horary astrology, representing the most intimate unity and co-operation of planetary functions.

Conventional horary astrologers claim that the quintile and septile series of aspects are unnecessary in a horary chart be-
cause they don't "make things happen." In the humanistic approach they have meaning.

The quintile and bi-quintile, derived through the division of the zodiac by five, relate to the individual and creative elements operative within any situation. When a quintile or biquintile connects the significators, the situation behind the inquiry, while not necessarily producing eventful happenings, may present the inquirer with an opportunity to unfold his or her talents as a creative, individual person.

The septile, bi-septile, and tri-septile arc derived through the division by seven and represent the destiny-directed, planetary, and global factors involved in a situation. When one of these aspects is formed between significators, the horary situation can have a very special, often mysterious, meaning in terms of the individual's destiny, and in some way should hold potential for him to better understand and actualize his place and function within a planetary scheme of activity.

In instances when three significators are involved because the sign on the cusp of the focal or co-focal house has a birulership (Scorpio, for example, is ruled by both Mars and Pluto), the procedure should be followed as outlined above, with attention given to aspects existing between any of the three significators. Aspects between planets ruling the same sign, however, refer more to the experiences associated with the house for which they serve as significators. If the significator of the house opposing the house with bi-significators forms an aspect to only one of the bi-significators, that planet's function should be more important in the horary situation than that of the planet sharing significatorship with it. If, on the other hand, both bi-significators are aspected by the other significator, both planetary functions will be involved and the nature of their aspects to the other significator, as well as the houses occupied by all three significators, should be studied.

Orbs Horary astrologers generally believe that for an aspect to exist between significators the orb must not extend out of one sign and into the first few degrees of the next sign. For instance, when Jupiter is in the twenty-eighth degree of Taurus and Mercury in the second degree of Aquarius, they are normally considered in trine aspect with a four-degree orb.


Trine with $0^{\circ}$ Orb

The orb "extends out of sign" because if the aspect were exact, Jupiter would be in the twenty-eighth degree of Taurus and Mercury in the twenty-eighth degree of Capricom-with the four-degree orb, Mercury crosses into the next sign, to two degrees Aquarius. Rather than declaring an aspect inoperative the moment a planet reaches the cusp of the next sign, we may interpret the situation as simply indicating that there is a transitional element involved in the relationship between the significators. The applying planet having already crossed the threshold into a new realm of activity (sign) symbolizes the direction of a change, or transition, that should be made in the horary situation if it is to fulfill its potential.

Applying and Separating Aspects Whenever two planets are linked by an aspect, one can look to see whether the fastermoving planet is bringing the two into more exact aspect or whether it is moving away from the point of exact aspect; that is, whether it is the "applying" or "separating" planet.


Applying Trine with $3^{\circ}$ Orb


Separating Trine with $1^{\circ}$ Orb
(See Appendix I, Section 5 for a more detailed discussion.) When the significator of the focal house is the applying planet, the initiative to carry through the situation will most likely lie in the hands of the inquirer. If the co-significator is the applying planet, outside forces may be more involved.

If the aspect existing between the significators is an applying aspect, the horary situation is probably still gathering momentum and has not reached its culmination at the time of the inquiry. On the other hand, if the aspect between the significators is separating, the horary situation has already culminated and is dispersing energy rather than building up energy at the time of the inquiry.


Waxing Trine

Waxing and Waning Aspects Every cycle of relationship between two planets can be divided into two hemicycles: one "waxing," the other "waning." The waxing hemicycle contains
all aspects that the two planets form between the conjunction and opposition, while the waning hemicycle contains all the aspects formed between the opposition and conjunction. Though the same aspects occur within both hemicycles, they carry much different meanings. Aspects within the waxing half of the cycle represent the emergence of consciousness and its gradual psychological and physical involvement and growth.


Waning Trine

Aspects within the waning portion of a cycle represent relationships between planetary functions that release the meaning and consciousness contained by the structures built during the waxing hemicycle. When horary significators are linked by aspects formed within the waxing phase of their cycle, their relationship (symbolized by the type of aspect) should be di-
rected toward the building of structures that will serve an immediate and/or future purpose. If, on the other hand, the significators form a waning aspect, the relationship symbolized here should be directed toward using structures built up, either by the inquirer or by others, in the past. And so, if the significators of a horary chart form a waxing aspect, the person may do best to use his or her energies in building a foundation for experience and conscious expression. If the aspect occurs within the waning phase, the person can probably best use his or her energies by extracting and applying meaning from the past rather than attempting to build new foundations.

Significator's House When the significator is also residing in the focal house, the inquirer will most likely have a rather firm grasp on the direction and outcome of the situationa basic control of how his or her potential will become manifest in the situation. When the significator is found in another house (this is usually the case), the experience of that particular house will be involved in the unfoldment of the horary situation and the focal house and this house will be linked. The house occupied by the co-significator symbolizes what should be integrated into the consciousness and experience of the individual so that the potential of the situation can be fulfilled.

House Lords are the planets that traditionally rule the nature 1 of the houses regardless of which sign of the zodiac is on the cusp of a house (see Appendix I, Section 6). The lords of the focal and co-focal houses (the lord and co-lord of the horary chart) can be examined according to the procedure outlined above for the significator and co-significator.


Collector of Light The "collection of light" is the traditional term used to describe instances in which a third planet forms aspects to each of the significators of the yes/no method. In cases where more than one planet aspects the significators, the planet forming the applying aspect of the narrowest orb should be considered the "collector." The third planet, the collector of light, symbolizes possible assistance, or interference, from an outside force. Its planetary function as well as its house, sign, etc., can reveal much about the nature and importance of the intermediary role to be played by this outside participant.

Translator of Light The "translation of light" is another traditional technique that is used if the significators of the yes/ no method form either a separating aspect or no major aspect at all. The translator of light is said to be a planet that forms (after the time of the inquiry) an exact aspect with one of the significators, and, having a speed of motion quicker than either significator, goes on to form another aspect with the

other significator before the two significators form their next aspect. The third planet, the translator of light, symbolizes a "go-between" in the horary situation that somehow brings the two significators together. It is symbolically a consolidator of the various elements of the horary situation. The role played by the translator of light is indicated by its planetary function as well as its position in terms of house, sign, aud other aspects.

Moon as a Co-Significator The position of the moon in house, sign, and aspect is always significant in horary astrology. The swiftest of celestial bodies, the moon represents basic adjustments that should be made in order to make the most out of any immediate situation. The last aspect made by the moon before the time of the inquiry symbolizes the basic limitations of the horary situation from the past-the karmic implications of the immediate. The first applying aspect to


Before Inquiry


After Inquiry
reach exactitude after the time of the inquiry symbolizes the quality and direction of what may be the situation's next development. This initial response can be studied by a careful look at the planet aspected by the moon and both their respecltive houses and signs.

Inquiry and Transposed Charts There are actually two basic and intimately related types of horary charts: the inquiry chart and the transposed, or "judgment," chart. The inquiry chart is cast for the time and place that an inquiry is posed or that the astrologer becomes aware of the over-all implications of a situation. For some horary work only the inquiry chart is really needed. When a deeper analysis of the situa'tion is desired, however, a transposed chart can be consulted. In the transposed chart the cusp of the focal house becomes the first house cusp. The planets occupy the same zodiacal spaces as in the inquiry chart, but the houses are "turned,"


Inquiry


Transposed
or transposed. The planetary pattern and house sequence can then be studied from the orientation of the focal house. For instance, if the fifth house of an inquiry chart is focal, when the chart is transposed the ninth house of the inquiry chart will become the transposed chart's fifth house.

The inquiry chart refers to the situation in general. However, once the focal house is located and the transposed chart is set up, we can see the situation and its various factors from the most particularized perspective. The transposed chart is a more individualized tool, symbolizing ways in which the various potentialities at hand relate to a specific area of experience.

In terms of meaning, the houses carry a slightly different significance in a transposed chart. While the houses of an inquiry chart represent the twelve essential types of human situations and individual experiences, in a transposed chart the houses symbolize the basic experiential potentialities of the specific horary situation. For instance, the second house of the transposed chart represents the situation's basic capacity for substantial manifestation and the basic energies at hand. A complete listing of the transposed chart meanings for the twelve houses follows.

The first house: the basic potentiality of the specific horary situation as a whole. The second house: the basic energies at hand and the situation's capacity for substantiation. The third house: the individual's capacity to respond to the situation in an effective manner and the situation's potential to assist the inquirer in the area of communication and education. The fourth house: the basic foundation of the situation and its potential to help the person toward growth and integration. The fifth house: the situation's potential to serve as a channel for the inquirer's self-expression and creativity. The sixth house: the situation's potential in terms of the inquirer's selfimprovement and reorientation. The seventh house: the situation's potential for co-operation with others. The eighth house: the situation's capacity in terms of assisting the inquirer along the path of personal transformation through relationship. The ninth house: the situation's potential in terms of assisting the individual in realizing a larger, more integrated, world view. The tenth house: the situation's potential
for bringing the inquirer to a better understanding of his or her social function and spiritual identity. The eleventh house: the situation's potential to bear lasting and valuable fruit. The twelfth house: the underlying and not so apparent potentials and implications of the horary situation.

## Notes

1. The idea of classifying astrological charts according to their gestalt, or their "whole view," was first originated by Marc Edmund Jones and presented by him in A Guide to Horoscope Interpretation (McKay; 1941. Current edition: Theosophical Publishing House; 1974).
2. The cyclic presentation of the lunation cycle and its eight soli-lunar types was first introduced by Dane Rudhyar in The Lunation Cycle (Servire; 1967 and Shambhala Publications; 1971).

## STEP FOUR: <br> THE SABIAN SYMBOLS

One day in 1925, in a large park in the middle of San Diego, one of the most amazing events in the annals of astrology took place. Participating in the event were the renowned astrologer Marc Edmund Jones and a "clairvoyant" woman, Elsie Wheeler. Their purpose (possibly known only to Marc Jones at the time) was to assign a contemporary symbolic image to each of the three hundred and sixty degrees of the zodiac.

Marc Jones had prepared in advance a set of 360 small index cards, the degree and sign of each degree of the zodiac recorded in barely visible writing in the upper right hand corner. In the actual sessions with Elsie Wheeler (one fourhour session in the morning and another in the afternoon), Marc Jones repeatedly shuffled these cards, randomly withdrawing one at a time and holding it at arm's length between himself and Ms. Wheeler. The print on the cards was so fine that as they were taken from the deck and held out neither Jones nor Wheeler could distinguish the particular degree written on the card. An image or scene flashed in Ms. Wheeler's mind as Jones held each card before her and she verbally described each scene to Jones in as few words as possible as he hastily wrote her descriptions in a notebook. An extremely cautious routine was necessary to ensure the objectivity of the entire operation and its results-if Jones had known, for instance, the degree to which a symbol was to correspond before Wheeler received a vision, his preconceptions concerning that particular degree could have psychically influenced what she "saw."

During the following six years Jones organized the Sabian symbols in their natural sequence and wrote a paragraph of interpretation for each. In 1931, the result of this work was
published as "Symbolical Astrology" in the form of a weekly letter circulated among Jones's students in the "Sabian Assembly" and other friends. ${ }^{1}$ Among the friends receiving "Symbolical Astrology" was Dane Rudhyar, who was much impressed with the Sabian symbols. Rudhyar included them, along with Jones's interpretations of them, in a condensed form in his first book on astrology, The Astrology of Personality (1936). In 1953 Marc Jones published an entire book on the symbols entitled The Sabian Symbols in Astrology, which presented a lengthier and, in some ways, more abstract interpretation of the symbols. The most recent work on the subject is Rudhyar's An Astrological Mandala: The Cycle of Transformations and Its 360 Symbolic Phases (1973). In this work Rudhyar presents an in-depth study of the origin, cyclic structure, and application of the Sabian symbols. In An Astrological Mandala Rudhyar states:
. . . while [their production] operated purely at random and at a fantastic speed, the result was a series of symbols which, when carefully studied, are shown to possess a definite and very complex internal structure. Some kind of "consciousness" was undoubtedly at work; the question is what type of conscious-ness-which is likely to mean whose consciousness, that of an individual or a collectivity of minds. Marc Jones has related it to the type of occult Brotherhood which apparently existed in ancient Mesopotamia (whence the name "Sabian" that he has used for the group of students he has been directing and teaching for nearly half a century).

Differences in the four published versions of the Sabian symbols vary from slight to considerable. The version appearing in The Sabian Symbols in Astrology is reputedly more representative of Jones's actual transcription of Elsie Wheeler's visions than are the two earlier versions. The actual scenes that make up the symbols relate to life in the United States during the 1920's, largely because the minds that perceived and recorded them (Elsie Wheeler's and to some extent Marc Jones's), were naturally conditioned by their time and culture. The Sabian symbols are said to be a synthesis of the "occult and the commonplace."

The interpretations, of course, allow for greater variations because symbols can be interpreted on different levels. Jones's interpretations tend to emphasize social factors and values. In

The Sabian Symbols in Astrology he interprets one degree Aries in this manner:

This is a symbol of completely unconditioned potentiality ..
Here are elements of soul emerging from primordial nonexistence . . . When positive, the degree is an illimitability of experience of which anyone can take advantage under any and all circumstances, and when negative, a failure to find a place in life because the self cannot separate itself from its private obsessions.

The interpretations given in "Symbolical Astrology" are essentially preliminary versions of those in The Sabian Symbols in Astrology, while the material given in The Astrology of Personality is more or less a condensation of "Symbolical Astrology."

In An Astrological Mandala, Rudhyar interprets the Sabian symbols in terms of his person-centered, humanistic approach to astrology. He describes them as potentialities referring to:
the development of man's individual consciousness-the consciousness of being an individual person with a place and function (a 'destiny') in the planetary organism of the Earth, and in a particular type of human society and culture.

Rudhyar interprets the symbol for one degree Aries, " $A$ woman just risen from the sea. A seal is embracing her," in this way:

To be individually conscious means to emerge out of the sea of generic and collective consciousness-which to the emerged mind appears to be unconsciousness. Such an emergence is the primary event. It is the result of some basic action: a leaving behind, an emerging from a womb or matrix, here symbolized by the sea ... .

The Sabian symbols compose a coherent whole with an intricate internal structure. The images are not isolated and unrelated-each symbol is a phase of an entire cyclic process. A detailed description of the far-reaching geometric and numerical interrelationships operative within the cyclic series of the 360 Sabian symbols is presented by Rudhyar in An Astrological Mandala. Briefly, the structure of the series of 360 symbols can be seen in four "Acts": 1. Differentiation (Aries through Gemini); 2. Stabilization (Cancer through Virgo); 3. Group Integration (Libra through Sagittarius); and 4. Cap-
italization (Capricorn through Pisces). Each Act is composed of six "scenes" of $15^{\circ}$ each. In addition, each act has three "levels" of thirty degrees (or one sign): Actional, CulturalEmotional, and Individual-Mental. A significant pentarhythmic cycle of five beats, or degrees, operates through the entire process. The internal pattern of the Sabian symbols is such that one can "inscribe" such things as five- and six-pointed stars within the 360 degree cycle and discover very apparent and significant relationships between the symbols corresponding to the various points of the star.

How to Use the Sabian Symbols The Sabian symbols provide deeper meaning to the degrees of the various planets and structural elements of an astrological chart. They can elucidate the particular role that a planet or factor in a chart symbolically plays in the relationship between an individual


## HOW?

Figure 4
act, situation, or problem and its universal frame of reference. They symbolize the various phases of the "process of conscious individualization," and for this reason they are highly suited for horary use and can reveal significant "clues" that might ordinarily be overlooked.

The cross of the horizon-meridian constitutes the basic structure of an astrological chart, connecting the four angles: ascendant, descendant, M.C., and I.C. The Sabian symbols for the four angles can tell us something about four basic questions concerning any horary experience: WHAT is its nature and meaning (ascendant)? HOW can I best meet the challenge of the experience (I.C.)? WHERE will it lead me (descendant)? and WHY am I presented with the challenge -what is its ultimate purpose (M.C.)? (See Figure 4.)

While the Sabian symbols for these four points naturally do not relate to specific acts to be taken by the inquirer, they often shed new light on the horary situation. The Sabian symbols for the degrees occupied by the planets and the house cusps of a horary chart may also be studied to reach a better understanding of the roles played by these factors in the horary situation.

## Notes

1. The first published record of the Sabian symbols, "Sym-1 bolical Astrology," is still available through the Sabian Publishing Society, Stanwood, Washington.

## STEP FIVE: <br> NATAL AND PROGRESSED FACTORS

In the study of horary astrology, we are interested in an individual's turning points and personal transformations. To understand how the horary situation fits into a person's whole pattern of being and becoming, the horary chart can be investigated as it relates to the inquirer's birth chart and the progressions of the birth chart.

## 1. THE BIRTH CHART

An astrological chart cast for the moment and place of one's birth is called a "natal chart" or "birth chart." It symbolizes the individual's essential pattern of being, representing his or her personal potentialities and indicating how they may be fulfilled-it is the person's archetypal seed pattern. The branch of astrology that deals specifically with the study of birth charts is called natal (natus $=$ birth) astrology; the positions of the planets, angles, etc., in one's birth chart are called natal factors.

Natal factors play an important part in horary astrology. When a horary planet or angle occupies the same degree as a natal factor, or forms a very close aspect to it, both factors will reveal something about the situation's potential and how it may be fulfilled. The horary planet or angle that is involved 1 in such a configuration represents the function through which the individual can most directly guide the development of the matter (the house, sign, and planetary aspects to the planet will play an important part in interpreting the guiding role of the planet). The function of the natal factor is also important, indicating an area of the individual's potential that will be involved in actualizing the situation. When the horary factor is an angle (ascendant, descendant, M.C, or I.C), the

horary situation is probably unique, and the natal factor's function will be intimately connected with the situation-the potential should evolve through it.
The most significant indicator of this type is a natal angle coinciding with a horary factor, especially when the horary factor is also an angle, or the sun or moon. Instances where the natal ascendant is involved indicate that the situation concerns the inquirer's basic individuality, relating more to the person's self rather than to external or mundane matters. When the inquirer's natal descendant is connected with a horary factor, the individual's personal and social relationships with others may be deeply involved in the problem under consideration. When the inquirer's natal I.C. contacts a horary factor, the situation will probably involve the individ-
ual's personal integration and his or her foundation of being and self-expression. If the natal M.C. is involved, the matter will probably concern the person's place and function in the outer world and his or her spiritual identity.

Placing the horary planets within the house structure of the inquirer's natal chart can also be a meaningful process. The houses occupied by the horary planets will represent how the potential of the specific horary situation is related to the person's potentialities as an individual. Horary planets that fall into natal houses containing natal bodies can consolidate their functions with those of the natal planets; the experiences associated with the particular house should in this case contribute valuable and varied energies to the development of the situation. When horary planets fall into unoccupied natal houses, an opportunity for that particular house's experience to become more consciously manifest and to participate within the general context of the horary situation is indicated.

## 2. PROGRESSED FACTORS

A birth chart symbolizes one's pattern of being. The symbolic progression of natal factors represents one's cycle of unfoldment, one's pattern of becoming. The natal factors progress at a certain symbolic rate through the houses and signs of the natal chart, forming aspects from time to time with the original natal positions, corresponding to the individual's growth. Through the study of these progressions the astrologer can better understand basic cycles of personal unfoldment, getting an essential overview of how the person can grow and what experiences, crises, and changes may transpire along his or her path of actualization.

There are several ways to progress natal planets. The two most widely used are the one-degree measure and the oneday to one-year measure (also called secondary progressions). The former is the simpler to use. For each year of life, one degree of the zodiac is added to all natal factors. For instance, if a person's natal sun is eleven degrees Gemini, the sun's progressed position for the person's thirtieth birthday
would be eleven degrees Cancer (elcven degrees Gemini plus thirty degrees equals forty-one degrees Gemini, minus thirty degrees to make a new sign equals eleven degrees Cancer).


The second method progresses the planets according to their own rate of daily motion. In secondary progressions the positions of the planets exactly thirty days after birth symbolize one's pattern of unfoldment for one's thirtieth year. One day of objective time is related to one year of subjective growth (in the one-degree measure, one degree of the zodiac: equals one year of growth). All methods of progression are symbolic techniques and refer to one's growth as a creative and unique individual.


Maya's Secondary Progressions 30th Birthday

Since progressions relate to one's cycle of individual unfoldment when they coincide with or form very close aspects to horary factors, a valuable connection between a natural, internal unfoldment of personal potentialities and the possibility for an external manifestation of a specific potential is established. When a progressed planet is connected in this way with a horary planet, their functions will probably be integrated, with the progressed planet acting through the horary body. Such configurations are most revealing, indicating a natural line of development. Even when the particular progressed and horary factors involved do not appear to play an obvious role in the specific horary situation, they symbolize valuable energy centers that are ripe for fulfillment and
participation, and may often have a much more direct bearing on the horary situation than is immediately apparent.

The simple study of the relationships existing between progressed and horary planets outlined above can provide many insights into the horary situation and its message for the individual. A deeper examination of the progressed chart (which also involves looking for the relationships between natal and progressed factors) will of course provide even more insights and may open up many horizons for those who wish to explore the farthest reaches of the horary situation.

## STEP SIX: <br> BRINGING IT ALL TOGETHERA CASE STUDY

Using the steps outlined in the preceding chapters, we will interpret a horary chart cast in response to an inquiry posed by a woman referred to here as "Maya." Her inquiry was, "What relationships in my life are now most in need of restructuring and how can I best participate on a creative level in the personal transformations connected with this process?" Maya's birth and progressed charts appear in the preceding chapter, and her most recent solar return chart is illustrated later in this chapter.

## 1. A PERSPECTIVE ON THE HORARY SITUATION

Maya was brought up by liberal parents, the second child of a family of three. Within this family structure Maya was in a precarious position. Her older brother naturally had the psychosocial advantages that go along with being a first-born male, while her sister benefited from being the youngest and growing up during a period when her parents had greater economic resources. In school Maya excelled, but did so simply because it was what she felt was expected, rather than because of any real personal interest or motivation.

The combination of Capricorn ascendant, Gemini sun, and Libra moon correlates with Maya's unusual blend of practicality, efficiency, and artistic talent. The fact that her natal sun is closely conjunct with Uranus (and more loosely with Venus) in the fifth house, forming a waxing/applying trine with the moon in the ninth house, conjoining Neptune retrograde, suggests a potential for creative originality as well as mental/psychic sensitivity.

There is a very pronounced western hemispheric emphasis in Maya's birth chart, indicating her tendency to rely upon her relationships with others for inspiration and guidance. Maya shares many of the crises of women today attempting to escape the role prescribed for conventional female behavior. She had been trying to transform her dependence on others to more productive forms of relationship for a number of years before the time of the horary inquiry discussed here.

While still in her teens Maya held a very demanding secretarial position at one of the finest Ivy League universities. Although she was efficient in the job, her inner life was disintegrating from neglect, and the pressures for social conformity at her job eventually led to a series of minor nervous breakdowns. She began to realize that the nine-to-five career was not for her, although her psychiatrists, psychologists, and parents were encouraging her to persevere in the areas where she had been displaying such talent (as a secretary).

During the next several years Maya went through literally dozens of jobs while attending several different colleges in pursuit of a bachelor's degree. Her sun-Uranus, Mars-Pluto, and moon-Neptune conjunctions enabled her to make the best of these unusual circumstances. Essentially on her own initiative, she was able to leam a good deal concerning various aspects of communication, having worked with people connected with education, publishing, music, theater, and the graphic arts. Intuitively she felt, however, that there was a lot more to life than academia and the typewriter. "Otherwise," she says, "I would have gone on to get a Ph.D. or would have married my boss."

In her twenty-seventh year, when the one-degree per year progressed moon was contacting her natal mid-heaven, Maya made a very decisive move, attempting to free herself once and for all from the repression of office subservience and the nine-to-five life by starting her own small, informal business on the West Coast. Having gotten it underway, she felt a new person emerging, free of many of the conflicts that had kept her confined, physically as well as emotionally, in the past Maya felt confident that she was progressing well along the path of unfoldment at the time of this horary inquiry, and while she was conscious of the many critical decisions and
crises that lay ahead of her, she was confident in her ability to meet them in a positive and productive manner.

The horary inquiry was posed a few months after Maya's thirtieth birthday, as the one-degree per year progressed Venus conjoined her natal descendant, during which time a need for deeper personal metamorphosis was gradually emerging into her consciousness. Maya's attention was predominantly focused upon the process of purification, on physical, emotional, and mental levels, and upon personal reorientation. (This is also indicated in her thirtieth solar return chart by the sixth house conjunction of the moon and Uranus.) During the months preceding the inquiry Maya gave up a twelve-year habit of smoking cigarettes and drinking coffee, and eventually embarked upon a ten-day fruit juice fast that concluded on her thirtieth birthday, apparently completing this cycle of physical purification and reorientation.

Occurring simultaneously with this period of intense physical readjustment, though not necessarily causally connected, an interval of emotional and mental repolarization reached its apex at the time of the inquiry. Just before, Maya had spent a few weeks on a vacation trip with most of the members of her family. This not only heightened her awareness of the changes in her attitude and life-style that she had been developing, but it also separated her from the man with whom she had been living for almost three years and to whom she had formed a deep attachment. This combination of circumstances evoked a series of in-depth introspective realizations that resulted in her becoming even more clearly conscious of her potential as a creative and unique individual. Maya cast the horary chart, then, to assist her in a re-examination of her personal relationships and her own self-concept.

## 2. THE INQUIRY CHART

The chart representing Maya's horary inquiry reveals many significant planetary arrangements. Its over-all planetary pattern is a funnel (providing more release than her natal hemispheric pattern), with Jupiter retrograde as singleton in the fourth house Pisces, additionally emphasized by its


Maya's Horary Chart
July 17, 1974
3:39 P.M.
Berkeley, California
position in zodiacal space-within two degrees of the chart's inverse center of gravity and squaring the lunar nodal axis (Figure 5). Translating this astrological symbolism into psychological terms, we could say that the situation at hand focuses upon the importance of the expansion of Maya's foundation for personal growth and integration (fourth house) through the process of a personal repolarization of consciousness (Pisces) and through broadening the scope of her cultural/social frames of reference (Jupiter) during this phase of her unfoldment.

The Sabian symbol for the degree occupied by Jupiter ( $18^{\circ}$


Figure 5

Pisces) adds another dimension of meaning to Jupiter's significance in this horary chart: "In a gigantic tent, villagers witness a spectacular performance." In An Astrological Mandala, Dane Rudhyar points out that the keynote of this symbol is "the collective appeal of a well-staged and exciting display of skill and/ or oratory," and he concludes his commentary by stating, "what is suggested is public sclfdramatization." From the perspective of Maya's inquiry this symbol can be seen to relate to her capability and need for using her personal crises of reorientation and integration as a basis for creative expression and communication in order to inspire others along the path of unfoldment.

The degree of the zodiac directly opposite the position of Jupiter is roughly the main planetary group's center of grav-
ity. The corresponding Sabian symbol should reveal something about the quality of the dynamic energy being generated by the main group of planets and released through the singleton Jupiter. The symbol for $18^{\circ}$ Virgo is "An Ouija board," and Rudhyar's keynote for it reads: "The ability to contact deeper recesses of the unconscious psyche and sensitiveness to psychic intimations and omens," while his commentary mentions the initial manifestations of "inner guidance." The message here appears to suggest that through a receptivity to her inner self Maya may better understand the real meaning of her unfolding life. In relation to its polar opposite ( $18^{\circ}$ Pisces) discussed above, one could say that it is through inner guidance and awareness that Maya may come to the realization of the need for "public self-dramatization" as well as the contents that should be expressed through the dramatization.

The only vacant house within the main grouping of nine planets in this chart is the tenth house, while, conversely, the only occupied house within the otherwise empty sector of the chart is the fourth house-directly opposite the tenth. This interesting feature could reveal additional food for thought concerning the interplay between Maya's personal foundations (fourth house) and her function as a social and spiritual entity (tenth house).

Another outstanding feature of the inquiry chart is the stellium of five planets (Venus, moon, Mercury, Saturn, and sun) occupying less than $30^{\circ}$ of zodiacal space in the eighth house, a sector of the astrological chart symbolizing metamorphosis as well as one's response to relationship. This stellium indicates that there are diverse energies available to Maya for these experiences and expressions.

The Sabian symbols for the horizon-meridian of a horary chart represent the situation's four basic modes of psychic activity. The symbol for the degree of the zodiac corresponding with the ascendant of the chart ( $21^{\circ}$ Scorpio in the instance of our horary chart) represents the WHAT of the horary situation. WHAT is the significance and meaning of the situation within the context of the unfoldment of the inquirer's total life. The symbol for twenty-one Scorpio reads "Obeying his conscience, a soldier resists orders." Rudhyar'i
keynote for this symbol in An Astrological Mandala refers to "a readiness to face the result of a refusal to follow authoritarian patterns of an aggressive society." This clearly points to Maya's inner need to free herself now, whatever the consequences, from the antiquated ideals and values of her past, her parents, and her culture in general. It is a need to stand on her own with her own values, to be capable of making decisions and accepting their results.

The WHERETO of the situation is represented by the symbol for the degree of the descendant (twenty-one Taurus): "A finger pointing to a line in an 'open book.'" According to An Astrological Mandala this symbol has the keynote of "learning to discern what in your culture and religion is meaningful to you personally." This clearly reveals that through the experiences connected with the horary situation Maya should be more able to realize what aspects of her personal past and cultural conditioning have significance for her in the present and in the future, as an evolving individual and as a purposeful member of society.

The I.C. of the horary chart ( $1^{\circ}$ Pisces) represents the HOW of the situation: HOW the inquirer can best meet the challenges presented by the experiences connected with the horary situation. The Sabian symbol for $1^{\circ}$ Pisces reads, "In a marketplace farmers and middlemen display a great variety of products." Rudhyar's keynote for this symbol speaks of "the process of . . . interchange which at all levels demonstrates the health of a community." The message in this symbol appears to imply that Maya should meet the challenges of her situation by exchanging ideas and energies with others, on both personal and collective levels, rather than through isolating herself from society.

The WHY of the situation, WHY one is being confronted by the challenges of the situation and its ultimate purpose, particularly within the context of a larger spiritual or planetary frame of reference, is represented by the degree of the horary chart's M.C. ( $1^{\circ}$ Virgo in the case of Maya's horary chart). The Sabian symbol for this degree reads: "In a portrait, the significant features of a man's head are artistically emphasized." Rudhyar's keynote for this symbol speaks of "the capacity to picture to oneself clearly the salient features
and over-all meaning of any life situation." This symbol appears to point directly to the importance of a holistic perception of not only Maya's present situation but of her entire life process. That is, the purpose of the horary situation is to present Maya with opportunities and challenges that should enable her to emerge with a clearer vision of the significance not only of her totality as a person but of her place and function within the universal scheme of things.

There are six planets in reactive houses in the horary chart. This indicates the importance of Maya's learning from her diverse past experiences and giving them meaning in terms of her present circumstances. The chart's cardinal preponderance (the sun, moon, Saturn, Uranus, and Pluto are all in cardinal signs) also denotes an open channel for change, action, and externalized self-expression, reaffirming what we discerned from the Sabian symbol for Jupiter. The preponderance of water (the sun, moon, Jupiter, Saturn, and the ascendant are all in water signs) stresses the important roles that creativity, intuition, and the capacity to see things in their essential unity play in the horary situation.

Neptune in the first house, just below the horizon, also carries an important message, revealing a good deal of potentiality in the realm of transcending outgrown psychic structures, facilitating the over-all reorientation of Maya's consciousness.

The planet Neptune is also one of the components in an unusual tetradic formation composed of septiles (four points of a seven-pointed star). This formation consists of Neptune in the first house Sagittarius, Jupiter the singleton in the fourth house Pisces, the eighth house conjunction of the moon and Mercury in Cancer, and the ninth house Mars in Leo. Altogether the formation includes two tri-septiles, three bi-septiles, and one septile (Figure 6). Of these six aspects five are within their waning hemicycles and four are applying.

Septiles are the most mysterious and difficult to interpret of all planetary aspects (this is probably why they are ignored by most astrologers). Seven is the first number that produces an irrational number when divided into 360 ; it somehow represents a portal to a new dimension, and for such reasons it has always been identified with transformations, fate, destiny, and the more esoteric side of experience. If a single


Figure 6
septile is difficult to interpret in practical terms, a formation composed of six interlinking septiles, like that appearing in Maya's chart, represents an even greater challenge. It could be said to relate to an unusual integration of planetary functions denoting Maya's need to fulfill a personal as well as cultural function, intimately connected with the fulfillment of her destiny as an individual.

The triadic formation composed of the trine between Venus and Uranus, with Mars at their midpoint, is another important feature of the horary chart, symbolizing the emergence of a I new set of harmonious and productive emotional/sexual potentialities.

The balsamic moon reaffirms the value of seeing life as a coherent whole rather than simply as a collection of unrelated
experiences. It stresses the importance of clearly visualizing the meaning of the complete cycle of one's life. In addition it represents one cycle coming to conclusion, at least in one aspect of life, and another about to begin again. Now is the time to prepare for a new beginning, especially by clearing up past accounts and bringing the purpose of one's life as a totality into sharp focus.

In many instances it may not be necessary to proceed beyond this point in interpretation to get an adequate overview of the horary situation.

The inquiry is an eighth house question: it deals with a crisis concerning personal transformation and evolution through relationship. The sign Gemini is on the cusp of the eighth house, so Mercury is cast in the role of significator with Jupiter as co-significator. The bi-septile (waning/separating) aspect existing between these two planets indicates that through experiences connected with the eighth and second houses Maya should be able to come to a clearer realization of her place and function as a spiritual entity, even though these experiences may be of an initially mysterious and unexpected nature.

Since the significator is found in the focal house (the eighth), Maya should be in a position to realize the potential of the situation and to grow through it regardless of her immediate circumstances. She should be able to make decisions effectively concerning the direction of her creative efforts and personal relationships. The fact that the co-significator is Jupiter puts even more emphasis on what we have already said concerning this planet, particularly stressing the establishment of a more inclusive frame of reference and the construction of a strong, integrated center of selfhood capable of projecting outward toward significant social participation. Neptune plays the role of the collector of light, forming a tri-septile to Mercury and a bi-septile to Jupiter. The planetary functions related to Neptune-reorientation, inclusiveness, and psychic perceptions and experiences-already emphasized by its angular position, should be involved in bringing the potentialities of the horary situation into actuality.

The position of the moon is always important in a horary
chart; in this instance the moon is also the translator of light. It is located in the focal eighth house and is in the third degree of Cancer-signifying the deeper side of relatedness and its results on the growth and integration of the psyche. The last major aspect with the moon before the inquiry was a conjunction with Venus at $26^{\circ}$ Gemini, implying that Maya's experiences in connection with interpersonal relationships and her receptivity to her own inner self are directly connected with the psychological environment that brought her to make the inquiry. This is a key to understanding the most immediate implications of the inquiry: it may be through restructuring her approach to personal interaction, relationships, and to her own self that Maya can most readily effect a change so that she will be capable of opening new vistas in other areas of experience.

The first major aspect to the moon to become exact after the time of the inquiry is a square with Pluto in the eleventh house, occupying the fifth degree of Libra. This aspect represents the most accessible path to success and fulfillment. Pluto in the eleventh house symbolizes a re-examination and reformulation of social contacts and participation. The Sabian symbol for $5^{\circ}$ Libra, the degree occupied by Pluto, directly states how this reformulation may be nourished. "A man revealing to his students the foundation of an inner knowledge upon which a 'new world' could be built." Rudhyar's keynote for this symbol reads "the necessity for youthful spirits to learn from a Teacher who through his long experiences has been able to reach solid and illuminating truths, i.e., 'seed ideas.'" Although Maya was personally in touch with a "teacher" during the time immediately following the inquiry, this symbol can also refer to illuminating contacts through other media such as books, music, etc.

## 3. THE TRANSPOSED CHART

The transposed chart for the inquiry has Pluto in the fourth i house, denoting potential available for the re-formation of Maya's personal foundations and for the beginning of a new phase of growth and integration. The fifth house is occupied by Uranus and the Part of Fortune, pointing to a good deal


The Transposed Chart
of creativity, and since Uranus is also in the fifth house of Maya's natal chart, the present situation could provide an excellent opportunity for her to actualize more fully her birth potential for original self-expression, a process that seems to play a vital part in the resolution of the inquiry. Neptune and the north lunar node are located in the sixth house indicating energies available for psychic and mental reorientation. The transposed chart also has the singleton Jupiter in the ninth house, revealing energy in reserve for the expansion of Maya's world view as well as her mental frame of reference in general.

## 4. THE BIRTH CHART IN RELATION TO THE HORARY CHART

There are several interesting connections between Maya's birth chart and the horary chart worth pointing out. Perhaps the most significant of these is the conjunction between Maya's natal descendant ( $4^{\circ}$ Cancer) and the moon-Mercury conjunction ( $3^{\circ}$ and $6^{\circ}$ Cancer) in the focal eighth house of the horary chart. This points to the great importance of relationships in this chapter of Maya's life. Another symbol of transformation through personal relationship is provided by Maya's natal Jupiter, squaring the horary chart's horizon, activating her natal eighth house. The horary Mars, also, is within four degrees of Jupiter's natal position.
Maya's moon-Neptune conjunction in her natal ninth house in the early degrees of Libra represents a potential for incorporating sensitivity, inclusiveness, and intuition in the demands of daily living. The fact that this conjunction forms a very close square with the horary conjunction of moonMercury is significant: if the opportunities provided in the horary situation are used well, a more secure foundation (horary moon-Mercury in Cancer) for the expression of the birth potential should result.

Maya's natal moon-Neptune conjunction is also within a degree or two of the horary Pluto, which is in turn trine her natal Venus in the fifth house and sextile her natal Mars-Pluto conjunction in the seventh house. This is an intriguing and significant link-up highlighting the horary Pluto and the role it can play as the reorganizer of Maya's psychic and emotional responses to her relationship to others, her relationship to the universe, and how the universe is reflected in herself.

## 5. PROGRESSED PERSPECTIVES

The most outstanding progression of Maya's natal chart (for the time of the inquiry) involves the one-degree per year progressed Venus and her natal descendant. If we add one degree for each of the thirty years of Maya's life to the natal


Venus, we arrive at a progressed position of $3^{\circ} 20^{\prime}$ Cancerless than one degree from her natal descendant. Here is another symbol for Maya's need to repolarize her approach to personal relationships as Venus progresses above the horizo into the seventh house. It calls for a reorientation of values and ideals as she becomes, symbolically speaking, a citizen of the universe-with a new way of perceiving life and her place within the scheme of life. Much of the significance of the horary chart can be seen with this in mind. The repeated emphasis not only on Maya's natal descendant but also on the eighth house of both her natal chart and the horary chart reveals the importance of these factors during this phase of Maya's personal unfoldment.

Other points of interest between Maya's progressed charts:
and her horary chart, too numerous to discuss in detail here, include a trine between the one-degree progressed moonNeptune conjunction and the horary moon-Mercury conjunction; the one-degree progressed sun exactly conjunct the horary Saturn; the secondary progressed Saturn conjunct the horary moon; the secondary progressed Venus conjunct the horary Saturn; and the secondary progressed Mars and Jupiter conjunct the horary Mars. In addition, Maya's thirtieth solar return Mercury-Saturn conjunction is conjunct the horary conjunction of moon-Mercury.

In summary, it appears obvious from the symbolism revealed by the horary chart along with Maya's birth chart, its progressions, and her most recent solar return chart, that Maya is involved in a particularly critical crisis in terms of her unfoldment. The experiential areas of personal creativity and meaningful interpersonal relationships are particularly vital at this time, and a reorientation seems to be needed if the present opportunities for actualization are to be fulfilled. What is most important, however, is the development (or further development) of a firm personal foundation and a world view capable of giving a purpose and meaning to the often chaotic and frustrating experiences that are always a part of creativity and personal relationship.

## appendices

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## APPENDIX I

# A HORARY VIEW OF ASTROLOGICAL SYMBOLS 

1. The Horary Chart
2. The Houses
3. The Signs
4. The Planets
5. Planetary Aspects and Orbs
6. Planetary Rulership

## 1. THE HORARY CHART

## ELEMENTS OF A HORARY CHART

A horary chart is essentially a map of the sky for a particular time and place. It is composed of the same elements as any other type of astrological chart. Individually considered they are:
(1) the two lines or axes that divide the space surrounding the place in which the question is asked into four $90^{\circ}$ sections of space. Because the ecliptic is inclined $231 / 2^{\circ}$ to the equator, an astrological chart rarely consists of four equal quadrants in terms of the zodiac. The horizontal axis (see Figure 7), called the horizon, is a line extending from the ascendant to the descendant. This line marks the points of solar ascension and descension. The vertical axis, called the meridian, is the line which connects the two points of solar culminatinn; the Medium Coeli (M.C), the symbolic "noon" point, and the Imum Coeli (I.C), the symbolic "midnight"


Figure 7
point. In order to ascertain the exact zodiacal degrees which correspond with these four "angles," a series of mathematical calculations must be made (a chart must be "cast") for the exact time and place.* Essentially, the horizon-meridian defines the basic structure of an astrological chart.
(2) the twelve houses, numbered in a counterclockwise direction beginning with the ascendant, derived from a threefold division of the quadrants produced by the horizonmeridian (see Figure 8).


Figure 8
(3) the ecliptic of the zodiac, divided into twelve signs of thirty degrees each.
(4) the sun, moon, and planets placed within the houses according to their zodiacal positions.

A complete astrological chart usually appears as a circle divided into twelve parts, with the signs and degree of the house cusps (the lines defining each house) written along the periphery. Within the houses, the symbols for the sun, moon, and planets are placed along with the degrees and signs they occupy. Some astrologers draw lines between planets forming aspects (angular relationships) and represent various other synthetic points such as midpoints, parts, and nodes.

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## THE ASTRONOMICAL BASIS OF AN ASTROLOGICAL CHART

The horizon-meridian is derived from the daily rotation of the earth. The ecliptic of the zodiac is produced by the annual orbit of the earth around the sun, or, in geocentric terms, the apparent annual path of the sun in the sky. The horizonmeridian deals with the cycle of day and night; the ecliptic, or the zodiac of signs, with the yearly cycle of seasons.

Astronomically the horizon-meridian relates the eastern and western horizons (the ascendant and descendant) and the two points of solar culmination (the M.C. and the I.C.) to certain degrees of the zodiac. Since the earth rotates on its axis once every twenty-four hours, one degree of the zodiac is rising above the eastern horizon while its opposite is setting below the western horizon. The degree changes approximately once every four minutes (three hundred and sixty degrees divided by twenty-four hours equals one degree every four minutes). At the same time two other opposing degrees are at the points of solar culmination. Although the horizon-meridian is composed of two perpendicular axes in space, they are very rarely perpendicular when represented in terms of the zodiac, since the ecliptic of the zodiac is not perpendicular to both the horizon and the meridian in space.

The geocentric system of astronomy is used almost exclusively in astrology. All physical phenomena within the solar : system and ultimately within the universe are observed as they $\backslash$ relate to the center of the earth. The use of this system gives I rise to various phenomena that are not encountered from the $\backslash$ heliocentric perspective, such as (1) the apparent motion of the sun, which is a natural result of the earth's daily rotation and orbit around the sun, and (2) retrograde planetary motion (at certain times planets appear to be moving backward because of the great difference in the orbits of the earth and the other planets).

People often ask why astrology does not use the heliocentric system instead of the outmoded geocentric system. The answer is simple. We live on the earth, not the sun, so we are interested in the view of the sky from the position of the viewer on earth.

## 2. THE HOUSES

In horary astrology, as well as in natal astrology, the horizon-meridian and the twelve houses derived from it comprise the most basic and essential frame of reference. The houses of a horary chart represent the archetypal experiences and circumstances of human existence. One of the first steps in the process of interpreting a horary chart is to locate the house which best represents the situation upon which the inquiry is based. In this section we will explore the meaning of the horizon-meridian, or the angles, and the circle of houses in terms of horary astrology.

## THE ANGLES

The Ascendant, in horary astrology, symbolizes the uniqueness of the particular circumstance under consideration. It does not necessarily represent the entire character of the situation upon which the inquiry is based, but rather the immediate state of affairs in the querent's life. More symbolically, the ascendant represents what the situation means in terms of the development of the individual making the inquiry as a unique being. It also represents the basic power of the individual within the situation.

The Descendant represents the qualities of the various cooperative factors operative within the situation as well as symbolizing the outcome of the matter-where it will take the individual.

The Inum Coeli, from the horary perspective, symbolizes the internal foundation of the situation upon which the inquiry is based and how the individual can approach it in order to make the best of things.

The Medium Coeli symbolizes the general social and collective factors involved in the matter. It is the why of the situation-its goal and purpose in relation to the entire lifecycle of the person making the inquiry.

## THE QUADRANTS

The horizon is the horizontal line that extends from the ascendant to the descendant, dividing the chart into two hemispheres: upper and lower. It symbolically represents the surface of the earth, with the sky above and the earth below. It is an axis signifying the two poles of human awareness: self-awareness and the awareness of others.

The meridian is the vertical line dividing the chart into two more hemispheres: the eastern (left) and the western (right). It extends from the I.C. to the M.C. and represents the two poles of human experience and consciousness: subjective growth and objective power.

The axes of the horizon-meridian divide the astrological chart into four distinct quadrants:

The first or lower eastern quadrant is the area between the ascendant and the I.C, carrying the significance of the ascendant. In horary astrology it symbolizes matters of a subjective and personal nature.

The second or lower western quadrant carries the meaning of the I.C. and is the area between this point and the descendant. It represents matters dealing with personal growth, integration, creativity, and expression.

The third or upper western quadrant is the area between the descendant and the M.C. and carries the meaning of the descendant. In horary practice it represents matters dealing with creative releases through both interpersonal and social relationships.

The fourth or upper eastern quadrant carries the significance of the M.C. and is the area between this point and the ascendant. It represents matters concerning one's position and identity in the social-collective-professional world and one's own individual spiritual identity and function.

## THE HOUSES

The houses of an astrological chart are derived from the threefold division of the area within the quadrants. This simple step, however, requires a choice of a system of house division; there is more than one way to divide the space between the angles (one system of house division even uses time instead of space). The horizon-meridian remains the same in all the systems, but different degrees of the zodiac are assigned to the intermediary house cusps (the second, third, fifth, sixth, eighth, ninth, eleventh, and twelfth) according to different systems. The principles of the various methods of house division are discussed in detail in my Handbook for the Humanistic Astrologer (Doubleday; 1974).

The principles of the various systems of house division are exceedingly complex. The symbology, however, behind the division of the quadrants is the same for all systems. Numerology is the language of cyclic wholes and, essentially, astrology is the application of numerology. The symbolic derivation of the houses becomes particularly clear when seen in the light of numeric symbology. Since the houses are produced by the threefold division of the four quadrants, the process involves the multiplication of four, symbolic of concrete manifestation and form, by three, representing the three modes of expression and consciousness operative within all forms of manifestation 1 -giving rise to twelve. Through another numerological operation the numeral 12 can be seen as expressing the significance of three: $1+2=3$. Finally, by the addition of three and four we come to the sacred number seven, representing the cyclo-cosmic process.

## THE THREE QUALITIES OF HOUSE EXPRESSION

In addition to producing the houses, the threefold division of the quadrants also defines the three qualities or modes of house expression: each of the three houses within a quadrant is assigned a different mode of expression. The three modes are assigned repeatedly in sequence, each mode being correlated with four houses.

The houses following the angles (the first, fourth, seventh, and tenth) are called active or angular. In horary astrology they symbolize experiences or situations that involve activity, motivation, and initiative. They generate and set processes into motion.

The reactive or succedent quality is assigned to the houses immediately following the active houses (second, fifth, eighth, and eleventh). These houses represent situations that require a response or reaction to actions or initiatives expressed by either the person making the inquiry or someone or something else. Reactive houses concentrate and consolidate the processes initiated in the angular houses.

The resultive or cadent houses precede the angles (third, sixth, ninth, and twelfth). In horary astrology these houses represent situations and experiences that are either basically harmonious and fruitful in themselves or to which the querent must bring harmony. These houses are dispersive and tend to fulfill or disintegrate the processes initiated in the active houses and consolidated in the reactive houses.

## THE CYCLE OF HOUSES

Being the basic frame of reference in horary practice, the houses may represent a broad scope of things. In the following pages each of the twelve houses is reviewed individually in terms of both the general horary situation and its more abstract meaning. Key words are also given to describe the significance of each house in terms of the cyclic process, its existential purpose, and the basic type of individual experience it signifies.


## FIRST HOUSE

Expression: Active/Generative
Cyclic Process: Emerging self-consciousness

## Existential Purpose: Self-discovery

## Individual Experience: Conscious selfhood

Traditional Meaning: The querent and everything concerning his personality, temperament, and disposition. Situations which require personal ambition and initiative. Early life.
Abstract Meaning: The immediate situation surrounding the act of inquiry and the present over-all psychological state of the individual making the inquiry. The initial emergence of the individual's awareness of the situation upon which the inquiry is based. Matters dealing directly with the personality of the inquirer, such as "Who am I?" should, of course, be investigated in the birth chart. An inquiry should, however, be located in the first house when the inquirer is asking for a reading in response to the meaning of the situation as a whole in which he or she is involved.


## SECOND HOUSE

## Expression: Reactive/Concentrative

Cyclic Process: Identification with substance Existential Purpose: Recognition of identity Individual Experience: Substantiation and attachment
Traditional Meaning: Money, personal possessions, and re sources. Rights, royalties, interest, and investments. Help fro others, and matters of profit and loss.
Abstract Meaning: Experiences and crises dealing with the availability and management of substance. The material po tential of the situation. The focus of the situation and the basi "raw materials" vital to the resolution of the inquiry.


## THIRD HOUSE

Expression: Resultive/ Dispersive
Cyclic Process: Working with substance
Existential Purpose: To know
Individual Experience: Association
Traditional Meaning: Relatives, neighbors, studies, and students. Current news, rumors, letters, and messengers. The immediate environment and routine everyday activities. Clerical and literary activities, accounting and other types of detailed work. Short journeys and lost articles.
Abstract Meaning: All forms of communications and the roles they play in the resolution of the problem. The concrete mental functions and the associative faculties. The educative process and situations dealing with the individual's attempts to know the nature of his or her environment and his or her relationship with it.


## FOURTH HOUSE

Expression: Active/Generative
Cyclic Process: Personal integration
Existential Purpose: Establishment
Individual Experience: Stability
Traditional Meaning: The home, domestic affairs, security, lands, mines, real estate, culture, and public facilities. Sentiments and memories. Large-scale collective experiences such as the weather and earthquakes.
Abstract Meaning: The mother function. Personal and private matters concerning integration and growth. Establishment of a firm base of operation and administration.


## FIFTH HOUSE

Expression: Reactive/ Concentrative
, Cyclic Process: Externalization
Existential Purpose: Creativity
Individual Experience: Self-expression
Traditional Meaning: Pleasure, love affairs, self-expression, speculation, and extravagance. Children and childbirth. Amusements, entertainment. and hobbies. Sports and competitive events. The performing arts. Executive responsibilities.
Abstract Meaning: Situations dealing with self-expression, authority, and personal creativity. The individual factor of any situation.


## SIXTH HOUSE

Expression: Resultive/ Dispersive
Cyclic Process: Adjustment
Existential Purpose: Self-improvement
Individual Experience: Introspection
General Meaning: Matters dealing with health, servants, and employment as well as labor, social struggles, court actions, and public welfare. Small business, domestic responsibilities, and activities. Employees, clients, and patients. All kinds of therapeutic activities.
Abstract Meaning: Situations arising from personal inertia or limitations, conflicts resulting from attempts at selfexpression, and difficulties concerning matters of creativity, Anything connected with self-improvement and introspection. Relations between individuals on different levels of management and service.


## SEVENTH HOUSE

Expression: Active/ Generative
Cyclic Process: Objectivization of consciousness
Existential Purpose: Relationship

## Individual Experience: Interchange

Traditional Meaning: Co-operation and relations with others. Marriage, partnership, and contracts. The astrologer and other professional people. Open friendship, competition, or conflicts. The immediate outcome of the horary situation.
Abstract Meaning: All matters dealing with human relatedness and interchange. The transition of consciousness from subjective to objective realms. The astrologer reading the horary chart and his viewpoint.


## EIGHTH HOUSE

Expression: Reactive/ Concentrative
Cyclic Process: Expansion and consolidation of relationship Existential Purpose: Transcendence Individual Experience: Exchange
General Meaning: Death, business, sex, transformation, disappointments, and regenerations. Obsessions, psychic experiences, and spiritual activities. Wills, legacies, and inheritances. The money and resources of others. Frozen funds and resources.
Abstract Meaning: All matters concerning the transcendence of human limitations and the expansion of one's world view. The exchange of energies between two or more people for a common purpose. The regeneration and transmutation of one's own energies.


## NINTH HOUSE

Expression: Resultive/ Dispersive
Cyclic Process: Expansion of consciousness
Existential Purpose: To understand Individual Experience: A search for meaning
General Meaning: The higher mind and all matters concerning knowledge, science, philosophy, religion, law, and legal affairs. Publications and academic institutions. Transportation, distribution, and long journeys.
Abstract Meaning: Situations dealing with the expansion of one's consciousness and attempts to understand the meaning of existence. The use of the abstract mind and the faculties of recognition, correlation, and synthesis.


## TENTH HOUSE

Expression: Active/ Generative
Cyclic Process: Social integration
Existential Purpose: Participation
Individual Experience: Responsibility
Traditional Meaning: One's social position, identity, and authority. Matters dealing with employers, supervisors, and heads of organizations. Governmental offices, police and military power. Ambition, vocational abilities, and professional or trained skills. The current state of political affairs. Abstract Meaning: One's active participation in the outer world, situations concerning the assumption of responsibilities, and the recognition of one's social and spiritual identity. The person's foundation in the outer world.


## ELEVENTH HOUSE

Expression: Reactive/Concentrative
Cyclic Process: Social fulfillment
Existential Purpose: Group activity

## Individual Experience: Social expression

I Traditional Meaning: Friends, ideals, and goals. Social contacts and group activities.
Abstract Meaning: Experiences concerning professionalism and the externalization and fulfillment of one's social position and its influence on personal life. Experiences dealing with new types of social relationships and expression.


## TWELFTH HOUSE

Expression: Resultive/Dispersive
Cyclic Process: Self-redemption
Existential Purpose: Rebirth
Individual Experience: Confrontation
Traditional Meaning: Institutional life and confinement. Unfulfilled potentialities and basic inadequacies. Hidden or unknown factors or persons involved in the horary situation. Conflicts with one's superiors and with society in general.
Abstract Meaning: Experiences concerning conflicts between the individual and society. Inner experiences and conflicts which may bring the individual to the threshold of a new level of personal selfhood. Unconscious factors, of both an individual and collective type.

## 3. THE SIGNS

## THE TWO ZODIACS

There are two zodiacs, totally independent from one another, which are very often confused. The zodiac of signs is the zodiac most astrologers use in their work. It is, actually, the ecliptic of the zodiac, a band in the sky extending about twenty-three and a half degrees from side to side and encir1 cling the entire globe. The ecliptic represents the annual apparent path of the sun around the earth from a geocentric point of view. This is also called the tropical zodiac because it corresponds to the earth's tropical zone.

The zodiac of signs has four important turning points, marked by the equinoxes and solstices. On the first day of spring and the first day of autumn the sun appears to rise directly to the east. On the first day of summer (the summer solstice) the sun appears to rise twenty-three and a half degrees north of the point where it rose on the equinoxes and at the winter solstice it rises twenty-three and a half degrees to the south. The signs of the zodiac are simply derived by the twelvefold division of this organic index to the cycle of seasons, resulting in the twelve signs of thirty degrees each.

The other zodiac is the zodiac of constellations, or the sidereal zodiac, composed of twelve star groups bearing the j same names as the signs of the zodiac, and located along a band to the north and south of the celestial equator.

There has been much controversy lately about which of It these two zodiacs is the correct one for astrological practice. During the early part of this century a small band of scien-
tifically inclined astrologers reported that the ancient Egyptians and Chaldeans used the zodiac of constellations rather than the zodiac of signs, and that for the past two thousand years astrologers have been using the wrong one. The researchers postulated that at the time of Christ the two zodiacs had coincided, but because of the precession of the equinoxes (accounting for a cumulative difference of one degree every seventy-two years) today the difference between them is almost an entire sign, or constellation, of thirty degrees. This confusion of zodiacs is directly related to the confusion about when the "Age of Aquarius" actually begins.

The sidereal zodiac is obviously a valid phenomenon, but in my opinion it cannot have the same meaning and applications as the zodiac of signs. The signs of the zodiac correspond to the annual organic life-cycle of earth, while the sidereal zodiac involves a much longer cycle (approximately twenty-six thousand years), referring to cosmic and planetary processes that probably have little reference to the lives and experiences of individual human beings.

The study of the twenty-six-thousand-year Great Polar Cycle is an intriguing pursuit, and the reader is referred to $A s$ trological Timing, by Dane Rudhyar, for more on this subject. The sidereal zodiac lacks an individual factor, however, and therefore bears little relevance in a humanistically oriented study of birth charts or horary charts. The zodiac used exclusively in this study is the zodiac of signs.

## THE INNER STRUCTURE OF THE SIGNS OF THE ZODIAC

The Cycle of Seasons The zodiac of signs is composed of four cardinal points called the equinoxes and solstices. The equinoxes (vernal and autumnal) are the two days of the year when days and nights are equal in length. The solstices are the two days of the year when days and nights are most unequal, the summer solstice having the longest day of the year and the winter solstice having the longest night.

In terms of the earth's organic cyclic process, the span between the vernal equinox and the autumnal equinox is the time when the day forces-differentiation and personalizingare dominant. From the autumnal equinox until the vernal equinox the night forces-collectivizing and universalizingare dominant.

The two hemispheres created by the axis of the equinoxes can be further divided into four quadrants by the solstitial axis. Here the span between the vernal equinox and the summer solstice can be seen as a period of intense organic growth, naturally following the birth of a new cycle. The sun is now rapidly moving northward and the nights grow longer.

At the moment of the summer solstice the sun reaches its maximum northern position, turns toward the south, and the nights naturally begin to grow shorter. Personalizing factors emerge as the rush of intense growth ebbs.

The autumnal equinox marks once more an equilibrium between days and nights. During the span between the autumnal equinox and the winter solstice, the socializing and ingathering forces of nature are at the fore, as the nights once more become longer than the days.

Finally, the winter solstice brings the longest night and the night forces then begin to decline as the sun moves from the south to the equator. Now the future is in the seed, which is able to give birth to a new cycle of manifestation at the vernal equinox.

The Cycle of the Elements Every sign is described by an element that refers to the type of substance it expresses. There are four elements, each connected with a triad of signs spaced $120^{\circ}$ apart in the zodiac.

The Fire element represents the principle of vitality, animation, and action. It expresses itself through intense emotional and individual channels. Fire is the element assigned to the sign of the vernal equinox, Aries, as well as to Leo and Sagittarius.

The Earth element is associated with Capricorn the sign of the winter solstice, along with the signs Virgo and Taurus. It refers to the practical, mundane, and collective affairs of life as well as the principle of stability and security.

The Air element represents the principle of adaptability and is connected with the intellect. It is assigned to Libra, the sign of the autumnal equinox, Gemini, and Aquarius.
The Water element is associated with the sign of the summer solstice, Cancer, as well as with Scorpio and Pisces. It refers to activities of a sensory, emotional, and creative nature.

The Cycle of the Modes The signs are also described by modes, which express how the energies of the zodiac are released as power. The modes are derived by the threefold division of the zodiac, resulting in each of the three modes being assigned to four signs, spaced $90^{\circ}$ apart.

The Cardinal or initiatory mode is the form of energy that is released at the equinoxes and solstices, thus associated with the signs Aries, Cancer, Libra, and Capricorn. It represents the principle of change and momentum. These signs generate power.

The Fixed or focal mode is assigned to Taurus, Leo, Scorpio, and Aquarius. The fixed mode concentrates and focalizes the power released by the cardinal signs. The fixed signs represent the principle of structure and definition, giving depth and meaning to the cardinal experience. The fifteenth degree of each of the fixed signs is of particular importance, representing a point of maximum intensity, midway between equinox and solstice, where power is found in its most concentrated form.

The Mutable or common mode distributes the power generated by the cardinal signs and focused by the fixed signs. It symbolizes the principle of flexibility and adaptability. The mutable mode is assigned to the signs Gemini, Virgo, Sagittarius, and Pisces.

## THE HORARY MEANING OF THE SIGNS OF THE ZODIAC

The signs of the zodiac represent twelve basic types of human nature and activity. In both horary astrology (which deals with individual situations) and natal astrology (which deals with individual persons) the zodiac describes how archetypal or collective human behavior and activity are manifest in the individual person or situation. The circle of houses, on the other hand, is in many ways a more primary frame of reference for both horary and natal astrology, dealing as it does with the individual experiences of particular human beings and the circumstances of specific situations.

The zodiac describes the earth's revolution around the sun once every 365 days, divided into twelve sections or signs of approximately 30 days. The circle of houses describes the earth's rotation on its axis once every 24 hours. Many people are born the same day, and many questions can be asked within a twenty-four-hour period. In terms of the zodiac, the positions of the planets are almost identical for a question asked at the first minute of the day and one asked during the middle of the same day. The only radical difference is the moon, which moves about six degrees in twelve hours. In terms of the houses, however, the charts for these two inquiries would be totally different-because a different degree of the zodiac appears on the ascendant every four minutes.

The planets, then, change their positions in terms of the houses they are in much more rapidly than they do in terms of the zodiac. The zodiac deals with the longer, collective cycle of the year, while the houses represent the shorter, individual cycle of the day.

The signs are individually presented on the following pages with their various meanings and key words describing each sign in terms of its principle and purpose and in terms of the cyclic process.

Aries

ARIES, the first sign
Quality: Cardinal/fire
Principle: Will
Process: Being
Purpose: Selfhood
Concrete Meaning: Desire, initiative, and impulsiveness. Abstract Meaning: The process of the formation of self. The concept of self and the primordial structure of the individual. The originating impulse. The will to be.
Cyclic Meaning: The day and night forces are equal. The initial emergence of the individual consciousness from the sea of undifferentiated consciousness. The originating impulse. Things: Sharp objects and things made of steel and iron. Human Anatomy: The head and brains.
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Taurus
TAURUS, the second sign
Quality: Fixed/earth
Principle: Self-exertion
Process: Identification
Purpose: Substantiation
Concrete Meaning: Possessiveness and practicality. Inertiaand determination.Abstract Meaning: Self-consciousness through identificationwith substance.Cyclic Meaning: Focalization of Arian impulses, giving tothem more depth and meaning. Self establishing itself in atangible manner.
Things: Property and security.
Human Anatomy: The neck and throat.

## Gemini

GEMINI, the third sign

## Quality: Mutable/air

Principle: Association
Process: Expansion of relationship
Purpose: Personal security
Concrete Meaning: The concrete mind. Changeability, duality, and restlessness. Literary and academic matters.
Abstract Meaning: Mind functioning within the personal sphere. Creation of systems and techniques. The recognition of concrete relationships.
Cyclic Meaning: Exteriorization of Arian impulses focused by Taurus. Expansion of one's field of relations.
Things: All objects connected with communication and transportation.
Human Anatomy: The shoulders, arms, hands, and lungs.

## Cancer

CANCER, the fourth sign
Quality: Cardinal/ water
Principle: Growth
Process: Focalization of activity
Purpose: Personal integration
Concrete Meaning: The home and family. Receptivity and the feelings.
Abstract Meaning: Personal integration within a well-defined area of operation. Concrete selfhood and a concrete basis for the expression of selfhood.
Cyclic Meaning: The longest day meets the shortest night. The formation of a firm basis of operation.
Things: Food, childbirth, hotels, and restaurants.
Human Anatomy: The chest, breast, and stomach.

## Leo

LEO, the fifth sign
Quality: Fixed/fire
Principle: Self-expression
Process: Exteriorization
Purpose: Creative release
Concrete Meaning: Self-expression and creativity. Selfconfidence, pleasure, and authority.
Abstract Meaning: Exteriorization of the personality and social recognition.
Cyclic Meaning: The power to express the self.
Things: Theaters and places of recreation. Jewelry and luxuries.
Human Anatomy: The heart and spine.

## Virgo

VIRGO, the sixth sign
Quality: Mutable/earth
Principle: Adjustment
Process: Discrimination
Purpose: Repolarization
Concrete Meaning: Mental analysis and discrimination. Service and health.
Abstract Meaning: Adjustment and judgment of oneself and others. Personal reorientation and the process of introspection.
Cyclic Meaning: The individual's preparation for participation in a greater whole (Libra) calls for this phase of introspection and purification.
Things: Introspection, employment, and health.
Human Anatomy: The stomach and intestines.

## Libra

LIBRA, the seventh sign
Quality: Cardinal/air
Principle: Co-operation
Process: Relationship
Purpose: Social participation
Concrete Meaning: Social consciousness and relations with others. Appreciation, art, and harmony.
Abstract Meaning: The establishment of a set of values and ideals. The objectification of consciousness through association and co-operation.
Cyclic Meaning: The day and night forces are once more equal. The emergence of the individual person participating with others.
Things: Partnership and marriage; allies and enemies; art works and things of beauty.
Human Anatomy: The kidneys and lower back.

SCORPIO, the eighth sign
Quality: Fixed/water
Principle: Sex
Process: Identification with others
Purpose: Transcendence
Concrete Meaning: Sex, will, jealousy, occultism, and regeneration.
Abstract Meaning: The urge to merge with others. Cyclic Meaning: The process of individuation and the creative participation of an individual within a greater whole. Things: Sex, drugs, and illicit activities; taxes, inheritances, and business.
Human Anatomy: The genitals.

## Sagittarius

SAGITTARIUS, the ninth sign
Quality: Mutable/fire
Principle: Abstraction
Process: Synthesis
Purpose: Expansion of consciousness
Concrete Meaning: Philosophy, religion, inspiration, and idealism.
Abstract Meaning: The abstract mind. Social-religious affairs. Cyclic Meaning: The identification and absorption of an individual by a social whole.
Things: Publishing and broadcasting; laws and ethics; long journeys and foreign countries; sports.
Human Anatomy: The thighs.

## Capricorn

CAPRICORN, the tenth sign

## Quality: Cardinal/earth

Principle: Social organization
Process: Social participation
Purpose: Social integration
Concrete Meaning: Status, ambition, politics.
Abstract Meaning: Acquisition of a social position or assumption of a spiritual identity.
Cyclic Meaning: The individual becomes integrated socially and the social structure becomes an all-important factor. The longest night meets the shortest day; the ingathering forces of nature are at their apex.
Things: Governments, corporations, and social management.
Human Anatomy: The knees, teeth, and skeleton.

## Aquarius

AQUARIUS, the eleventh sign

[^1]
## Pisces

PISCES, the twelfth sign
Quality: Mutable/water
Principle: Repolarization
Process: Personal and social conflicts
Purpose: Redemption
Concrete Meaning: Impressionability and openness.
Abstract Meaning: The unconscious, both individual and collective; threshold experiences; the need for reorientation. Personal and social conflicts.
Cyclic Meaning: The universalization of experience.
Things: Psychic phenomena and dreams; chemicals and drugs; fish and sea creatures.
Human Anatomy: The feet.

## 4. THE PLANETS

## CENTERS OF FUNCTION

Our solar system, as we know it today, is composed of nine planets that orbit a single, central sun. In geocentric astrology, however, we look upon the sun and the earth's moon exactly as we do the other planets for the simple reason that they are the two moving objects most apparent in the sky. The positions of the ten geocentric planets (sun and moon included) viewed in the circle of houses and the signs of the zodiac serve as the basic variables of astrology, symbolizing ten essential organic functions operating within any human being and within any human situation. The meanings and functional activities of the individual planets are derived from a planet's location in terms of the whole solar system, from a geocentric perspective.

The planets can be arranged in four groups: the sun and the moon; Mercury and Venus; Mars, Jupiter, and Saturn; and Uranus, Neptune, and Pluto.

1. The Lights The sun and the moon symbolize the most essential functions of life and existence. The sun is the source of all light within our solar system, light that sustains everything that exists within its realm. The sun is the innermost
body of our solar system, and it represents the personality or root energy of a person and his or her basic quality of being. In a horary situation it represents purpose. The moon reflects the solar light to earth and it is the archetypal symbol of relatedness. Together these two bodies exhibit a particularly significant relationship, the lunation cycle, which is the astrological archetype of the bi-polar activity found in all forms of life.
2. The Personal Planets The three planetary bodies that lie within the orbit of the earth are called the personal planets, and the functions attributed to them are of an inward or personal nature. Since the sun is the innermost body of our system, it is regarded as a personal planet in addition to being a light. It symbolizes being. Mercury, the first planet outward from the sun, symbolizes the initial differentiation of solar energy and the communicative function. Venus, the first planet within the orbit of the earth, represents all forms of inwardly directed activities and experiences and the establishment of sets of personal values and ideals.
3. The Social Planets The first three planets that lie outside the orbit of the earth are the social planets, representing basic functions of outward expression and social participation. Mars, the first planet outside the orbit of the earth, symbolizes all forms of outwardly directed activities and is therefore considered the polar opposite of Venus. Jupiter, the second planet outside the orbit of earth, refers to the principle of expansion and basic social functions in general. Its polar opposite is Mercury. In ancient times, Saturn was the outermost body of our solar system, representing the function of form, definition, and focalization, polarized by both the sun and the moon.

The moon mediates between the personal and social planets. That is, half of its twenty-eight-day orbit is spent within the orbit of the earth, closer to the personal planets than is the earth itself, while the other half of its orbit is spent outside the orbit of earth, closer to the social planets.
4. The Outer Planets The three outermost planets of our solar system, Uranus, Neptune, and Pluto, represent the functions of transformation, reorientation, and reformulation. Because these planets lie outside of the Satumian realm and move slowly along extended orbits, they basically deal with collective or transcendental processes of transformation.

## THE HORARY MEANING OF THE PLANETS

In spite of its many rigid rules and procedures, horary astrology is one of the most inconsistent branches of astrology, and has been criticized by many astrologers as being an archaic system riddled with unscientific and naive concepts. This is understandable. For centuries those who have practiced and taught horary astrology seem to have been concerned with just giving yes/no answers to mundane questions with the least possible effort. They have based their entire judgments on just one or two of hundreds of possible factors. The primary function of the planets in traditional horary astrology has been solely to determine rulerships and lords of the houses. This practice is obviously inadequate for the humanistic approach to horary astrology, which views the entire chart as a whole.

The presentation of each planet that follows should provide a basic foundation for understanding their functions in horary astrology.

## Sun

## SUN

Function: Sustainment
Process: Purpose-giving
I Purpose: Integration
Abstract Meaning: The fountainhead of all life-light in our solar system. The sun is symbolic of all centers and the life potential and purpose of everything that lives within the solar system.
Types of People: People in a position of authority. In a ho-

- rary chart the sun traditionally symbolizes the husband and male lovers.
1 Activities: Political, executive, and governmental activities are particularly connected with the sun.
1 Things: The sun represents objects that are of particular importance and meaning to the person.
Circumstances connected with the sun are those within which the person may be at his or her best.

Moon

## MOON

Function: Life-provider
Process: Nourishment
Purpose: Growth
Abstract Meaning: The ability to adapt to life experiences, and to provide the self with the necessary nourishment, protection, and adjustments for growth.
Types of People: The moon represents one's mother, wife, daughters, or any woman whom the inquiry directly concerns. Managers, cooks, counselors, and the common people are also symbolized by the moon.
Activities: Managerial work, household activities, and working with food are connected with the moon, as well as teaching and counseling.
Things: The moon symbolizes basic material substances essential for well-being; the cycle of fertility and childbirth.
Circumstances connected with the moon are those that emphasize the need for management and adjustment of one's personal life-energies.

## Mercury

## MERCURY

## Function: Mental

Process: Association
Purpose: Relatedness
Abstract Meaning: The principle of communication, association, interchange, and knowledge; the ability to function m an effective manner.
Types of People: Students, writers, and reporters.
Activities: Mercury is particularly connected with writing, publishing, travel, the media, and all kinds of technical or mental work.
। Things: Those which keep the basic functions of any operation in tune and in proper running order. Communication, knowledge, books, letters, vehicles, etc.
Circumstances represented by Mercury are those that demand I the ability to respond to a need in a quick, effective manner.

## Venus

## VENUS

Function: Values and ideals
Process: Inner meaning
Purpose: Internalization
Abstract Meaning: The centripetal forces in nature and all attempts to reach one's center. One's pattern of appreciation and one's set of ideals and values.
Types of People: Lovers and people who deal with aesthetics and the arts.
Activities: Those of an artistic and creative nature; personal and intimate relationships, either with others or with one's own psyche.
Things: Creative and artistic works and things that have internal or personal meaning and value, as well as marriage, contracts, and partnerships.
Circumstances represented by Venus are those that should help the person come to a better understanding of himself.

## Mars

## MARS

Function: Expression
Process: Emergence
Purpose: Externalization
1 Abstract Meaning: The centrifugal forces in nature and all forms of activity directed outward.
Types of People: Doctors, promoters, mechanics, and soldiers.
$\dagger$ Activities: Those dealing with promotion, and leadership as well as with machinery, the military, and the medical profession.
Things: Machines and all mechanical functions; initiative and the use of energy; weapons and war.
Circumstances symbolized by Mars are those that are of a demanding nature or contain some element of risk.

## Jupiter

## JUPITER

Function: Expansion and compensation Process: Assimilation Purpose: To establish a larger frame of reference Abstract Meaning: The principles of increase, expansion, compensation, and preservation. The process of the individual's assimilation of the collective consciousness.
Types of People: Lawyers, judges, priests, and professional people.
Activities: Legal and financial activities, as well as patronage and philosophy.
Things: Those that give the person a sense of well-being and an inspiration to achieve. Churches, courts, universities, and travel to foreign countries.
Circumstances represented by Jupiter are those that could potentially contribute to the person's professional and social well-being.

Saturn

## SATURN

Function: Focalization
Process: Differentiation
Purpose: Individualization
Abstract Meaning: Personal identity, security, and inertia; the principle of form and definition.
Types of People: Fathers, heads of corporations, and the leaders of governments and other groups of people.
Activities: Business, politics, and construction.
Things: Those that contribute to structuring the form of an operation and to the maintenance of the status quo. Real estate, foundations, and the industrial-military complex. Laws and law enforcement.
Circumstances symbolized by Saturn are those that offer few new experiences, though containing the potential of adding new insight into the nature of things as they are.

Uranus

## URANUS

Function: To go beyond
Process: Revolution
Purpose: Transformation
Abstract Meaning: The urge to go beyond the conventional structures and patterns set up within the Saturnian realm.
Types of People: Reformers and revolutionaries; unconventional and eccentric people.
Activities: Reforms, upheavals, unusual and unconventional activities.

Things: Sudden change and transformations; the unexpected and unpredictable elements of any experience or situation. Deviations from the norm.
Circumstances connected with Uranus are those that hold new experiences and unexpected discoveries.

## Neptune

## NEPTUNE

Function: Dissolution<br>Process: Universalization<br>Purpose: Release

Abstract Meaning: The universal, inclusive principle. The dissolution of old structures and values.
Types of People: Those who are connected with occultism, mysticism, and astrology.
Activities: The practice of meditation, occultism, and astrology, as well as those occupations that are glamorous and intriguing.
Things: Those that defy explanation or seem intangible and mysterious. Glamour, hypocrisy, self-sacrifice, and imprisonment. Dreams, drugs, and the collective unconscious.
Circumstances connected with Neptune are those that introduce the person to the inexplicable, irrational, and mysterious elements of life.

## Pluto

## PLUTO

Function: Refocalization
Process: Re-examination
Purpose: Reformulation
Abstract Meaning: Regeneration and the reformulation of new forms of expression.
Activities: Underworld and underground activities; those employing extreme means for the accomplishment of a purpose or goal.
Types of People: Avatars, dictators, and gangsters.
Things: Pluto represents the things that are transpersonal and universal in nature as well as sex in its higher aspect, the political underground, fascism, and secret police.
Circumstances symbolized by Pluto are those that hold the potential for opening up new vistas of social-collective order, for better or worse.

## 5. PLANETARY ASPECTS AND ORBS

When two planets reach particular distances from one another in terms of the $360^{\circ}$ of the zodiac, they are said to be in aspect. The particular distances of the aspects are all based on geometric divisions of the $360^{\circ}$ : by $2,3,4,5,6$, $7,8,9$, and 12 . The planets need not be at the exact position for the aspect to be recognized: the aspect between a planet at $0^{\circ}$ Aries and one at $3^{\circ}$ Libra is an opposition with a $3^{\circ}$ orb. The orb is the allowance for inexactness; its maximum size is generally determined by the relative speeds of motion of the planets in consideration. Aspects link planetary func-tions-the type of aspect symbolizes a nature of relationship between the functions of the two (or more) planets linked.

| Dividing $360^{\circ}$ by | 2 | equals | $180^{\circ}$ |
| ---: | :--- | :--- | :--- |
| 3 |  | $120^{\circ}$ | opposition |
| 4 |  | $90^{\circ}$ | square |
| 5 |  | $72^{\circ}$ | quintile |
| 6 | $60^{\circ}$ | sextile |  |
| 6 | $51^{\circ} 25^{\prime}$ | septile |  |
| 7 | $45^{\circ}$ | semisquare |  |
| 8 | $40^{\circ}$ | novile |  |
| 9 | $30^{\circ}$ | bisextile |  |

Other aspects are the $180^{\circ}-45^{\circ}=135^{\circ}$ sesquiquadrate
$180^{\circ}-30^{\circ}=150^{\circ} \quad$ quincunx
$51^{\circ} 25^{\prime} \mathrm{X} 2=102^{\circ} 50^{\prime}$ biseptile
$51^{\circ} 25^{\prime} \times 3=154^{\circ} 15^{\prime}$ triseptile
$72^{\circ} \times 2=144^{\circ}$ bi quintile
and $0^{\circ} \quad$ conjunction
When the significators of an inquiry or transposed chart form an aspect, the meaning of the aspect provides an idea of the basic manner in which potential may be actualized. A short listing of planetary aspects and their meanings follows.

| Aspect | Angle | Orb | Meaning |
| :--- | ---: | ---: | :--- |
| Conjunction | $0^{\circ}$ | $10^{\circ}$ | A positive indication that the <br> energies involved in the <br> situation are working closely <br> together. |


$180^{\circ} \quad 10^{\circ}$| Denotes that the energies |
| :--- |
| involved in the situation are |
| diverse and that the inquirer |
| is confronted with a need to |
| integrate conflicting |
| possibilities. |

Trine $120^{\circ} \quad 6^{\circ} \quad$| Represents a potential for the |
| ---: |
| situation to fulfill itself in a |
| harmonious and relatively |
| easy fashion. |

| $\square$ |
| :--- |
|  |
|  |
|  |
|  |

$90^{\circ} \quad 6^{\circ}$
6* Indicates a great deal of constructive potential, but the inquirer may be faced with much hard work and confrontations with obstacles to be dealt with before fulfillment.

Symbolize a relationship with a high degree of intensity that can either release a great deal of energy or result in tension and frustration. and frustration.
\& Sesquiquadrate
$135^{\circ}$


30 Denotes a situation that may be nearing maturity; indicates that it demands sensitivity and the avoidance of forced growth.

Aspects based on the division of the circle by two (the opposition, square, semisquare, and sesquiquadrate) symbolize an interfunctional relationship typified by confrontations and cross-activities, a state of tension and awareness.

Aspects based on a division by three (the trine, sextile, novile, and semisextile) represent a more relaxed, harmonious, or co-operative state.

Fives (quintile and biquintile) refer to creativity, and sevens (septile, biseptile, triseptile) to the transcendental and the unexpected. The conjunction-formed when two planets are quite near one another-represents a sort of mutual intensification of the functions of the two planets.

## APPLING AND SEPARATING ASPECTS

An applying aspect is an aspect that is not yet exact; that is, the faster-moving planet (at the time of the inquiry) is traveling along a course leading to an exact aspect. A separating aspect is one that has already been exact (the faster moving of the two bodies is moving along a path that will take it completely out of aspect). An applying aspect deals with the building up of energies and momentum that will be released at the moment of the exact aspect. A separating aspect represents the distribution and employment of these energies.

## WAXING AND WANING ASPECTS

Just as the relationship between the sun and the moon passes repeatedly from conjunction (new moon) to opposition (full moon) to conjunction, the relationship between any two planets passes from conjunction through all the aspects (semisextile, novile, semisquare, septile, sextile, quintile, square, trine, sesquiquadrate, biquintile, quincunx, triseptile) to opposition and back again to conjunction-with the slower-moving outer planets taking centuries, of course, to complete a cycle in their relationship. These cycles of relationship, like the lunation cycle, can be divided into a waxing hemisphere (after conjunction, before opposition) and a waning hemisphere (after opposition, before conjunction).

The meaning of any aspect, then, is involved with the building of organic structures and the process of involution-the development of potentials-when it is a waxing aspect. Waning aspects refer to the release of meaning and the objective actualization of purpose.

The successive evolution of "major" aspects between two planets is a series of steps in the furthering of differentiation and complexification of the energy released at conjunction.

In the waxing hemisphere
At conjunction $\left(0^{\circ}\right)$ a new pattern of potentials is released, beginning a new cycle of relationship.

At semisextile $\left(30^{\circ}\right)$, self-awareness emerges.
The semisquare ( $45^{\circ}$ ) produces an interfunctional awareness as the relationship intensifies.

At sextile ( $60^{\circ}$ ) the relationship is directed toward the productive use of knowledge.

At square $\left(90^{\circ}\right)$ there is a crisis demanding action.
Trine ( $120^{\circ}$ ) symbolizes a resolution of the square and an expansion of activity.
The sesquiquadrate ( $135^{\circ}$ ) denotes the apex of action.
Quincunx ( $150^{\circ}$ ) represents a clarification.
Opposition ( $180^{\circ}$ ) denotes the objective manifestation or actualization of purpose for the entire cycle if integration has been maintained.

In the waning hemisphere
The quincunx ( $210^{\circ}$ ) brings the relationship to maturity and sets the stage for the release of its purpose.

The sesquiquadrate $\left(225^{\circ}\right)$ represents an apex of activity and expression released within a social context.
The trine ( $240^{\circ}$ ) symbolizes growth in understanding and its use on a collective scale.

At square $\left(270^{\circ}\right)$ there is a crisis demanding the development of new forms of consciousness.

At sextile ( $300^{\circ}$ ) new forms of understanding and consciousness can be used productively.
The semisquare $\left(315^{\circ}\right)$ denotes an apex of interfunctional activity for the conclusion of the entire cycle.

At semisextile ( $330^{\circ}$ ) a seed is released from which a new cycle, beginning with the next conjunction, may grow.

## ORB ALLOWANCES

There is no absolute agreement about the size of orb allowances among astrologers. If you have not already established your own criteria for orb allowances, the list below can be used at least initially.

| ASPECT | SYMB |
| :---: | :---: |
| Coniunction | $\bigcirc$ |
| Opposition | $0^{0}$ |
| Tine | A |
| Square |  |
| Sexile | * |
| Square or semiquare | $\llcorner\square$ |
| Semisexile or quincunx | $\underline{\sim}$ |
| Quinities | * |
| Sepilies | \% |

## 6. PLANETARY RULERSHIP

The concept of rulership is an integral, yet often misunderstood, part of astrology. The early astrologers, whose work still influences our modern ideas, were naturally conditioned by their environment and language-their descriptions of the nature of astrology and the terms they used to identify its symbolic functions reflect the intellectual climate of their age. The best way for an ancient astrologer to communicate the idea that a definite relationship existed between similar cyclic phases of apparently unrelated cycles (such as the circle of houses and the zodiac of signs) was by hierarchical analogy. The old astrological ideas about planetary rulers, house lords, planetary exaltation, detriments, falls, etc., are heavily intrenched in archaic mentality and are often misunderstood today. I don't mean to imply that the entire foundation of rulership is useless; rather, I believe we can reinterpret its symbolism into terms more suitable to the minds and needs of our time.

The rulership of particular planets over different signs of the zodiac is important in all forms of traditional astrology. In horary astrology an astrologer looking for a rapid response from a chart pertaining to a mundane situation can often make a proclamation of "success" or "failure" simply by calculating the type of aspect (if any) linking the two planets that rule over the signs on the cusps of the chart's focal and co-focal houses. Indeed, in the traditional approach, horary astrology relies upon a very rigid system of rulership.

It was relatively easy for ancient and medieval astrologers to devise an integrated system of rulership. Before the discovery of the trans-Saturnian planets (Uranus in 1781, Neptune in 1846, and Pluto in 1930) the astrologer/ astronomer knew of only seven wandering celestial bodies (planets). The sun and the moon were regarded as two opposing facets of the same center, the moon ruling Cancer (and the fourth
house) and the sun ruling Leo (and the fifth house). The five remaining bodies were each assigned to rule two signs and two houses, as the chart below illustrates:


This system became somewhat unwieldy with the discoveries of Uranus, Neptune, and Pluto. After a good deal of argument, most astrologers agreed that the three new planets should be assigned to rule Aquarius, Pisces, and Scorpio respectively. Many other astrologers simply skip over the transSaturnian triad when it comes to rulership, while still others, particularly the traditional horary astrologers, ignore Uranus, Neptune, and Pluto altogether.

There are a few, Dane Rudhyar most notably, who feel that the assignment of Uranus as ruler of Aquarius and Neptune as ruler of Pisces is consistent, but believe that Pluto fits better as the ruler of Aries rather than Scorpio. In an article titled "Planetary Rulerships in Modern Astrology" (first published in American Astrology in 1944 and recently reprinted in the November-December 1973 issue of The Aquarian Agent) Rudhyar presents the following argument for a Pluto rulership of Aries:

When Uranus, then Neptune, were discovered it became soon evident to astrologers that these planets should be considered as operating along the arc of evolution, or ascent, in the zodiacal cycle. The Life-Power represented by the Sun in Leo becomes more and more deeply immersed in matter, or encased
into limited Saturnian structures, as the autumnal period progresses. In Capricorn, Saturn triumphs. Life reaches bottom. Thereafter, it must free itself from this Satumian thralldom; and it begins to do this in the sign of reform and idealism, Aquarius. Uranus, discovered during an era of revolution and socialspiritual upheavals, was understood thus at once to be the animating spirit of Aquarius-its "ruler."

Later, when Neptune came to be discovered, what could have been more natural than to give to this strange and rather baffling newcomer dominion over the elusive and equally baffling sign, Pisces. The practical results of this attribution of rulerships having proved most satisfactory, everything seemed settled. Then came Pluto-while the mental confusion all over the world was growing ever deeper.

Obviously the logical thing to do would have been to say that Pluto ruled over Aries. But astrologers were quick to perceive some connections between Scorpio (or their understanding of what Scorpio signifies!) and Pluto, which seemed conveniently to rule gangsters, dictators and the like-for rather superficially stated reasons, one must add. Scorpio had been thought related to occult mysteries, magical rituals, etc.; presumably because of its association with the eighth House, which in turn is associated with death and regeneration (but also with business, the practical fruits of partnership and of marriage, etc.). And as Pluto was god of the Underworld and of hidden mysteries, the correlation between Pluto and Scorpio has seemed well established to many contemporary astrologers.

If it were so, then the entire pattern of planetary rulership would break down. The rulership of planets over signs of the Zodiac is not based on the vague and hypothetical "affinities" between the "nature of the planets" and the "nature of the signs of the Zodiac"-for such an idea does not seem to measure up to the real standard of validity or logical consistency. On the other hand, the fact of the actual sequence of the planets away from the Sun cannot be dismissed. Planetary rulership refers to the parallel relationship between the actual sequence of the zodiacal signs and the actual sequence of the planets-and basically to nothing else. Sequence is a most significant factor in any ordered picture of the universe; and the attribution of Pluto's rulership over Scorpio breaks the principle of sequence.

If Pluto ruled over Scorpio, then Uranus should rule over Capricorn, and Neptune over Sagittarius-thus, these newly discovered planets would rule a backward series of Signs, back to the source of the series with the Sun in Leo. . . . Pluto must rule over Aries, if there is any sense in saying that Uranus, Neptune and Pluto rule over any one sign of this Zodiac. But is there any sense in saying this? This perhaps is the main question to solve.

Our present knowledge of rulership, then, is apparently incomplete. Perhaps if, as many astrologers and occultists believe, at leas two more planets remain undiscovered in our solar system, their discovery may clarify the scheme. In the meantime, I suspect it may be unwise to adhere completely to any one rigid system of rulership. One alternative to the traditional system appears below. The table gives the rulerships of the planets in terms of the houses and signs. It also gives each planet's counterrulership, the house and/or sign directly opposing a particular planet's rulership position.

| Planet | Rulership House/Sign | Counter-Rulership House/Sign |
| :---: | :---: | :---: |
| Sun | 5lh / Leo | 11th / Aquarius |
| Moon | 4th / Cancer | 10th/ Capricorn |
| Mercury | 3rd / Gemini \& 6th / Virgo | $\begin{gathered} \text { 9th / Sagittarius } \\ \& \\ 12 \mathrm{th} / \text { Pisces } \end{gathered}$ |
| Venus | 2nd / Taurus <br> \& 7th / Libra | $\begin{aligned} & \text { 8th / Scorpio } \\ & \& \\ & \text { 1st / Aries } \end{aligned}$ |
| Mars | 1st / Aries <br> \& 8th / Scorpio | 7th / Libra <br> \& 2nd / Taurus |
| Jupiter | $\begin{aligned} & \text { 9lh / Sagittarius } \\ & \& \\ & \text { 12th / Pisces } \end{aligned}$ | $\begin{aligned} & \text { 3rd / Gemini } \\ & \& \\ & \text { 6lh / Virgo } \end{aligned}$ |
| Saturn | $\begin{aligned} & \text { 10th / Capricorn } \\ & \& \\ & \text { 11th / Aquarius } \end{aligned}$ | 4lh / Cancer <br> \& 5th / Leo |
| Uranus | 11th / Aquarius | 5th / Leo |
| Neptune | 12th / Pisces | 6th / Virgo |
| Pluto | 8th / Scorpio <br>  <br> 1st / Aries | 2nd / Taurus <br>  <br> 7th / Libra |

Generally speaking, a planet is most at home, functioning with the greatest ease, when it is in the house or sign it rules. Conversely, it is most tense, or most likely to experience obstacles or confrontations, when it is located in the house or sign that is opposite, or counter, to its rulership.

Some planets are assigned two rulerships; for instance, Mercury rules both Gemini and Virgo. The "recently" discovered trans-Saturnian planets, Uranus, Neptune and Pluto, were assigned as co-rulers of some of the signs. Scorpio is ruled by both Mars and Pluto, Aquarius by both Saturn and Uranus, and Pisces by both Jupiter and Neptune. The same planets co-rule (or co-lord) the eighth, eleventh, and twelfth houses respectively. In instances such as these each planetary ruler "rules over" a certain level of activity associated with the house or sign. Essentially, the traditional rulers are connected with the mundane, everyday side of the sign or house, while the trans-Saturnian rulers are more related to the sign or house's spiritual or transcendental functions.

## APPENDIX II

## HOW TO CAST A HORARY CHART

INTRODUCTION: Learning to Cast an Astrological Chart

PART ONE: Equipment Necessary to Cast a Horary Chart

PART TWO: Calculations Necessary to Cast a Horary Chart

PHASE I: CALCULATING LOCAL SIDEREAL TIME
STEP 1 Preparation of Data
step 2 Finding Converted Time
sTEP 3 Calculating Greenwich Mean Time
step 4 Calculating True Local Time
STEP 5 Finding Sidereal Time for the Year of Inquiry
STEP 6 Calculating Sidereal Time for the Month of Inquiry
sTEP 7 Calculating Sidereal Time for the Greenwich Date
STEP 8 Calculating Adjusted Sidereal Time
STEP 9 Calculating Local Sidereal Time

PHASE II: ASCENDANT, M.C, AND HOUSE CUSPS
STEP 1 Finding the Ascendant, the M.C, and House Cusps
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PHASE III: PLANETARY POSITIONS
STEP 1 Finding the Positions of the Planets
STEP 2 Adjusting Planetary Positions
STEP 3 Placing the Planets in the Houses
PHASE IV: Finding the planetary aspects
ADDITIONAL STUDIES
I ANSWERS TO EXERCISES

## INTRODUCTION

## LEARNING TO CAST AN ASTROLOGICAL CHART

The two basic requirements for learning to cast a horary chart are a basic knowledge of arithmetic and patience. There is no reason why anyone reading this book cannot master the process. Many may become frustrated or confused at certain points, but if each step is mastered before going on to the next, many headaches will be avoided. Of course, it always takes longer to perform a structured routine the first few times, but with experience one should be able to cast an astrological chart in ten or fifteen minutes.

In the following pages I have tried to present the process of casting a horary chart in the simplest and clearest way possible. Example exercises are included, with answers in the back, for those who wish to check their progress as they go along step by step.

This is a totally self-contained volume. All the tables needed to cast a horary chart are included in Appendix III, though some of these tables have been necessarily condensed, such as the Ephemerides and the Table of Ascendants. Astrologers often invest large sums of money for the complete versions of all the tables included in this book. While it is true that the more expansive tables are more accurate than those given in this volume, if the step-by-step instructions given below are followed with all the appropriate interpolations carried out, these condensed tables will produce a chart that is accurate within approximately ten minutes of an arc on planetary positions and on the horizon-meridian. This is a relatively high degree of accuracy, exceeding the performance of many professional astrologers even when they use the standard professional tables. Of course, if you own the necessary tables and already know how to cast a chart, you will not need to study this appendix.

## PART ONE

## EQUIPMENT NECESSARY TO CAST A HORARY CHART

Before we can begin to cast a horary chart, we must have ; on hand the necessary data and tools.

1. The first thing we need is the correct DATA:
a. The INQUIRY, as described in Step One of the main text.
b. The PLACE of the inquiry: the city or town, the state or province, and the country.
c. The DATE of the inquiry: the day, month, and year.
d. The TIME of the inquiry, as accurately as possible, in hours and minutes, carefully noting whether A.M. or P.M.

This is an example of the proper data:
INQUIRY: Example
DATE: April 29, 1975
TIME: 8:10 A.M.
PLACE: Berkeley, California, U.S.A.

All the following tools are included in Appendix III:
2. An Ephemeris for the year of the inquiry. Ephemerides are published for each year and are not interchangeable. The ephemeris gives the positions of the planets (the sun and the moon included) as they relate to the ecliptic of the zodiac. Appendix HI includes condensed ephemerides for 1975-1980.
3. A table of ascendants is needed in order to find the Ascendant and M.C. for the horary chart.
4. TIME CHANGE REFERENCES are needed to determine whether or not Daylight Savings Time was in effect at the time of the inquiry.
5. TABLES OF LONGITUDE AND LATITUDE are used to determine the longitude and latitude of the place of the inquiry. The latitude is a key factor in finding the Ascendant in the Table of Ascendants, while the longitude is used in determining the Local Sidereal Time, which is used as a cross-reference with the geographic latitude in finding the Ascendant.
6. CHART FORMS are the blank forms in which the horizonmeridian, house cusps, planets, etc., are placed to make up the horary chart.
7. A TABULATION SHEET is simply a sheet of paper where all the vital information and factors concerning the casting of a chart are recorded for easy reference. Having all the important information in one place saves much confusion and frustration. An example tabulation sheet is given on the following page.

INQUIRY $\qquad$
DATE $\qquad$
TIME AM._PM._DST____
PLACE ____XONG.___LAT
CONVERTED TIME $\qquad$ _GMT GD

TLT LST $\qquad$

ASC
SUN
2nd $\qquad$
3rd

MC $\qquad$ VENUS $\qquad$
$\qquad$ MARS $\qquad$
JUPITER
SATURN $\qquad$
PART OF FORTUNE $\qquad$ URANUS $\qquad$
NEPTUNE $\qquad$
PLUTO $\qquad$

## PART TWO

## CALCULATIONS NECESSARY TO CAST A HORARY CHART

## PHASE I: Calculating Local Sidereal Time (LST)

Outline of the First Phase

1. Have data on hand
2. Find Converted Time
3. Calculate Greenwich Mean Time
4. Calculate True Local Time
5. Find Sidereal Time for the year of inquiry
6. Calculate Sidereal Time for the month of inquiry
7. Calculate Sidereal Time for the Greenwich Date
8. Calculate Adjusted Sidereal Time
9. Calculate Local Sidereal Time
(1) EXAMPLE

April 19, 1975
Berkeley, California, $122^{\circ} 16$ W. Long., $37^{\circ} 52$ N. Lat. 8:10 A.M.
(2) 8:10 Given Time
$-1: 00$ to correct Daylight Savings Time
7:10 Converted Time
(3) 7:10 Converted Time
+8:00 Time WEST of Greenwich
15:10 GMT
(4) 7:10:00 Converted Time -0:09:04 $\mathbf{2}^{\circ} \mathbf{1 6}$ WEST of Time Center
7:00:56 TLT
(5) 06:40:06 S.T. for midnight January 1, 1975 +05:55:50 S.T. increment for April
(6) 12:35:56 S.T. for midnight April 1, 1975 $+01: 50: 24$ S.T. increment for 29th day of the month
(7) $14: 26: 20 \quad$ S.T. for midnight April 29, 1975
$+00: 02: 30$ S.T. increment for 15:10 GMT
(8) 14:28:50 Adjusted Sidereal Time
+07:00:53 Tiue Local Time
(9) 21:29:43 Local Sidereal Time

Local Sidereal Time (LST) is the key calculation involved in finding the ascendant and M.C. of an astrological chart. A brief outline of the procedure used in calculating the LST is given above. If you examine the outline you will notice that it involves the use of several variations of time. An explanation of each variation is given below.

1. GIVEN TIME is the time of the inquiry according to the clock.
2. CONVERTED TIME is the Given Time with any of the necessary corrections made for time changes, such as Daylight Savings Time.
3. TRUE LOCAL TIME (TLT) is the actual or solar time at the time and place of the inquiry.
4. Greenwich mean time (GMT) is the time it is at Greenwich, England ( $0^{\circ}$ Longitude) at the time of the inquiry.
5. SIDEREAL TIME (S.T.) measures the zodiacal degree on the horizon at the time of the inquiry in terms of hours, minutes, and seconds. It measures the year in terms of twenty-four hours; i.e., Sidereal Time progresses at a rate of approximately three minutes and fifty-six seconds daily. In casting a horary chart we will be dealing with several different variations of Sidereal Time that will be explained later on.

We will also be dealing with:
time changes such as Daylight Savings Time.

Time zones that are certain predetermined areas within which all clocks are sct to a standard time.

Time Centers that are the geographic longitudes within the time zones where Converted Time is also True Local Time.

## Time Zones

The globe is divided into sections which are formed by imaginary lines extending from north to south. Such divisions are called "longitudes" and they are measured by degrees. The earth being a sphere, there are 360 degrees of longitude. Greenwich, England, has been designated as $0^{\circ}$ longitude; all locations west of Greenwich for a distance of $180^{\circ}$ are considered west longitude. Conversely, all locations east of Greenwich for $180^{\circ}$ are considered east longitude. The International Date Line is the point where $180^{\circ}$ west longitude meets $180^{\circ}$ east longitude.

The sun appears to progress along the horizon at the speed of fifteen degrees of longitude per hour, or one degree every four minutes. Because fifteen degrees is equal to onc hour, most Standard Time Zones are positioned at intervals of fifteen degrees longitude. There are four time zones within the continental United States:

1. the Eastern Time Zone, 5 hours west of Greenwich
2. the Central Time Zone, 6 hours west of Greenwich
3. the Mountain Time Zone, 7 hours west of Greenwich
4. the Pacific Time Zone, 8 hours west of Greenwich

All clocks within a time zone are synchronized to a standard time, with the possibility of inconsistencies due to Daylight Savings Time. While this system of standard times tends to eliminate much confusion with regard to commerce, it does not assure True or Actual Time.

To cite an example: New York City and Pittsburgh are both within the Eastern Time Zone and both use the same standard time, even though New York (approximately $74^{\circ} \mathrm{W}$. longitude) is several hundred miles east of Pittsburgh (approximately $80^{\circ} \mathrm{W}$. longitude). When the sun is "on the meridian," its highest point in the sky on the vernal equinox,
it is noon by True Local Time, but the clocks read 11:56 A.M. in New York and 12:20 P.M. in Pittsburgh. Because of this discrepancy we must make the proper adjustments to Converted Time in order to find TLT.

## PHASE I: STEP 1 PREPARATION OF DATA

Before we may cast the chart the time, date, and place of the inquiry must be known. To cast an absolutely accurate chart requires the exact time of the inquiry, right down to the second. Very few people, however, care to work within such a fine margin of exactitude and very little significance is lost by working within looser parameters. The time of the inquiry within a one-minute margin of accuracy is usually adequate.

## How to Find Longitude and Latitude

To find the longitude and latitude of the place of the inquiry, refer to the table of longitudes and latitudes in Appendix III. This table includes most cities in the U.S.A. If the place of the inquiry, or a city near it, is not listed in the table, you can find its longitude and latitude in the Index of the Rand McNally International Atlas, available in most libraries.

At the head of the first two columns of the table of longitudes and latitudes in Appendix III "Long. W" and "Lat. N" refer to longitude west and latitude north. The numbers in the columns correspond to the cities given in the extreme left column. In the case of places in the Eastern Hemisphere, the longitude would be east; likewise, for the Southern Hemisphere, the latitude would be south.

EXAMPLE: The longitude for Berkeley, California,
is $122^{\circ} 16^{\prime}$ West; the latitude for Berkeley, California, is $37^{\circ} 52^{\prime}$ North.

## EXERCISES:

(Answers to exercises appear on pages 192-93.)

1. Find the longitude and latitude for the following places:
a. San Francisco, California
b. Chicaso, Illinois
c. New Haven, Connecticut
d. Denver, Colorado

PHASE I: STEP 2<br>FINDING CONYERTED TIME

Time Changes
If the inquiry took place during a time change, one hour must be deducted from the Given Time, and the result is called Converted Time. Two types of time changes have been used in the United States: War Time (WT) and Daylight Savings Time (DST).

War Time was used in this country in the years 1918 and 1919 during the First World War, and from February 9, 1942, 2:00 A.M. to September 30, 1945, 2:00 P.M. during the Second World War. It has not been practiced here since then.

Daylight Savings Time has been a great source of confusion to the astrologer because until the Uniform Time Act of 1966 each community could use DST at its own discretion and every community had the right not to use it at all. The Uniform Time Act of 1966 made it the state's responsibility to decide whether or not to practice DST, and now every community within the state must comply with its decision. Furthermore, the Uniform Time Act requires every state that accepts DST to do so from 2:00 A.M. on the last Sunday of April until 2:00 A.M. on the last Sunday of October of the same year. Table 1 in Appendix III gives these dates from 1975 until 2000. If the date of the inquiry falls between the last Sunday of April and the last Sunday of October, the local city ball can inform you if Daylight Savings Time is in effect in the state of the inquiry.

Congress also has the power to change the Uniform Time

Act, as they did in 1974, by declaring DST in effect for the whole year because of the "energy crisis."

If the place of the inquiry is practicing DST at the time of the inquiry, one hour must be deducted from the Given Time.

$\begin{array}{ll}\text { EXAMPLE: } &$|  April 29,  1975 |
| :--- |
|  |
|  Berkeley, California  |
|  |
|  |
|  8:10 A.M. (DST)  |
|  |
|  |
|  |
|  | \(\mathrm{m}: 10 Given Time <br>

\& 7: 10 To correct DST <br>
Converted Time\end{array}\)

If the inquiry did not take place during a time change, Converted Time will be the same as Given Time.

## Adjusting for the Twenty-four-Hour Clock System

The Converted Time should now be adjusted for the twenty-four-hour clock system and entered on the tabulation sheet. The purpose of using the twenty-four-hour clock system is to eliminate the possibility of confusing an A.M. inquiry with a P.M. inquiry.

Here are some examples for times adjusted to the twenty-four-hour clock system: 12:00 midnight $=00: 00 ; 3: 00$ A.M. $=3: 00 ; 6: 00$ А.М. $=6: 00 ; 9: 00$ A.M. $=9: 00 ;$ 12:00 noon $=12: 00 ; 3: 00$ P.M. $=15: 00 ; 6: 00$ P.M. $=$ 18:00; 9:00 P.M. $=21: 00$ and 11:59 P.M. $=23: 59$.

## EXERCISES:

2. Find Converted Times for the following Given Times:
a. 9:23 A.M.; January 2, 1976
b. 7:18 P.M.; June 13, 1978 (DST)
c. 2:15 A.M.; November 18, 1980
d. 5:45 P.M.; August 22, 1983 (DST)
3. Adjust the following Converted Times to the twenty-fourhour clock system.
a. $\quad 1: 34$ P.M.
c. 10:13 P.M.
b. 8:36 A.M.
d. 12:56 A.M.

PHASE I: STEP 3

## CALCULATING GREENWICH MEAN TIME (GMT)

Ephemerides record the positions of the planets once a day, usually for midnight Greenwich Mcan Time (GMT). The condensed ephemerides included in Appendix Ill give planetary positions less frequently: the positions of the sun, Mercury, and Venus are given for Greenwich midnight once every week; the GMT midnight positions of Mars, Jupiter, and Saturn are given once every two weeks; the GMT midnight positions of Uranus, Neptune, Pluto, and the north lunar node are recorded once a month, while the positions of the moon are given every other day on a Greenwich midnight basis. If we wish to adjust the positions of the planets as they are given in the ephemeris to the exact time of the inquiry we must know the GMT of the inquiry. The process of adjusting the planetary positions for the GMT assures a greater degree of accuracy with regard to the planetary positions in the finished chart.

To find GMT, we must first know the time difference between the place of the inquiry and Greenwich. To find this time difference, refer to the table of longitudes and latitudes given in Appendix III. The second column from the right gives the hours from Greenwich for the corresponding city. This number can also be found by determining the time zone of the place of the inquiry.

Once we know the time difference between the place of the inquiry and Greenwich, GMT may be found by the following rule:

If the longitude of the place is WEST of Greenwich, ADD the time difference to the Converted Time. The result will be the GMT.

If the longitude of the place is EAST of Greenwich, SUBTRACT the time difference from the Converted Time.

EXAMPLE: 7:10 Converted Time, Berkeley, California. California is eight hours WEST of Greenwich

$$
\begin{aligned}
7: 10 & \text { Converted Time } \\
+8: 00 & \text { WEST of Greenwich } \\
15: 10 & \text { GMT }
\end{aligned}
$$

## When Greenwich Mean Time Exceeds Twenty-four Hours

Often when working with GMT, the calculated GMT exceeds twenty-four hours. In such instances, twenty-four hours should be subtracted from the figure and the Greenwich Date (GD) will be a day later than the local date.

$$
\text { EXAMPLE: } \begin{aligned}
& 22: 45 \text { Converted Time, November 7, } 1975 \\
&+\quad 8: 00 \text { WEST of Greenwich } \\
& \begin{aligned}
30: 45
\end{aligned} \\
& \\
& \hline 6: 45 \text { GMT (November 8, 1975, GD) }
\end{aligned}
$$

## When Time Difference Is Greater Than Converted Time

There are also instances, when dealing with inquiries made in eastern longitudes, in which the time difference between Greenwich and the place is greater than the Converted Time. In order to subtract this difference from the Converted Time, twenty-four hours should be added to the Converted Time and the GD will be one day earlier than the local date.

$$
\text { EXAMPLE: } \begin{array}{rll} 
& 1: 13 & \text { Converted Time, March 27, } 1975 \\
& -3: 00 & \text { EAST of Greenwich } \\
1: 13 & \text { Converted Time } \\
\underline{+24: 00} & \\
\hline 25: 13 & \\
\hline & \begin{array}{ll}
2: 00 & \text { EAST of Greenwich } \\
& 22: 13
\end{array} \text { GMT (March 26, 1975 GD) }
\end{array}
$$

## When GMT Changes Date

When the Greenwich Date (GD) is different from the local date, it is important to keep in mind that it will be necessary to use the Greenwich Date when calculating planetary positions and the Local Sidereal Time. The GMT and GD should both be recorded on the tabulation sheet.

## EXERCISES:

4. Find the Greenwich Mean Times and Greenwich Dates for the following Converted Times:
a. 3:î̂ Boston, Massachusetts; May 17, 1975
b. 13:57 Boulder, Colorado; April 13, 1979
c. $5: 35$ Cleveland, Ohio; July 22, 1981
d. 21:53 Portland, Maine; August 6, 1975
e. 9:10 Berlin, Germany (one hour east of Greenwich); September 5, 1982
f. 14:22 Sydney, Australia (ten hours east of Greenwich); November 23, 1985
g. 8:11 Athens, Greece (two hours east of Greenwich); March 12, 1977
h. 16:53 Madrid, Spain (zero hours east of Greenwich); December 17, 1975

## PHASE I: STEP 4 <br> CALCULATING TRUE LOCAL TIME (TLT)

True Local Time (TLT) is the actual or solar time of the inquiry and is used in the calculation of Local Sidereal Time. To find the TLT, we must know the longitude of the place, its time zone, and the zone's time center.

## What Is a Time Center?

The standard time for each time zone is based on the actual or local time at the time center or meridian. Thus, the only longitude within a time zone where the Converted Time is also TLT is the geographic longitude occupied by the time center. The time centers are positioned at regular intervals of fifteen degrees of longitude (with a few exceptions), beginning with Greenwich, $0^{\circ}$ Longitude.

The time zones and their centers for the continental United

States are: Eastern Time Zonc-75 ${ }^{\circ}$ W. Longitude; Central Time Zone- $90^{\circ} \mathrm{W}$. Longitude; Mountain Time Zone- $105^{\circ}$ W. Longitude; Pacific Time Zone- $120^{\circ} \mathrm{W}$. Longitude.

## How to Calculate True Local Time

In order to calculate True Local Time the difference in time between the place of the inquiry and the time center must be determined. This interval may be found in the tables of longitudes and latitudes under the column headed "Variations between Standard Time and TLT." If the place is not listed, or if you are using a reference that does not give this information, follow this rule:

If the place is EAST of the time center (a place east of the time center will be of a lesser degree of longitude in the Western Hemisphere and larger in the Eastern), ADD four minutes to the Converted Time for each degree of longitude that the place is EAST of the center.

If the place is WEST of the time center (a place west of the time center is of a larger degree of longitude in the Western Hemisphere and is lesser in the Eastern), SUBTRACT four minutes for each degree of longitude that the place is WEST of the time center from Converted Time.
example: 7:10 Converted Time, Berkeley, California $122^{\circ} 16^{\prime}$ West Longitude

| 7:10:00 | Converted Time |
| ---: | :--- |
| $-0: 09: 04$ | For $\mathbf{2}^{\circ} \mathbf{1 6} 6^{\prime}$ West of Time Center |
| 7:00:56 | TLT |

## EXERCISES:

5. Find the True Local Time for the following Converted Times:
a. 12:24 Chicago, Illinois
b. $4: 56$ Baltimore, Maryland
c. 21:15 Eureka, California
d. 15:45 Poughkeepsie, New York

## PHASE I: STEP 5 <br> FINDING SIDEREAL TIME FOR THE YEAR OF INQUIRY

Now we have to actually calculate the Sidereal Time for the moment and place of the inquiry. The first step in this process is the determination of the midnight S.T. for January 1 of the year of the inquiry. To do this, refer to Table 2A in Appendix III. Find the year of the inquiry on this table. The figure directly to the right of the year is the Sidereal Time for the first moment (00:00:00 GMT) of the year of the inquiry, given in hours (H.), minutes (M.), and seconds (S.).

EXAMPLE: The midnight S.T. for January 1, 1975, is 6:40:06

## EXERCISES:

6. Find the January 1, midnight Sidereal Time for the following years:
a. 1977
b. 1979
c. 1983
d. 1985

PHASE I: STEP 6
CALCULATING SIDEREAL TIME FOR THE MONTH OF INQUIRY
Once you have determined the January 1, midnight Sidereal Time for the year of the inquiry, refer to Table 2B in Appendix III to find the monthly increment that should be added to it. This procedure results in the midnight S.T. for the first day of the month of inquiry.

The table gives two increments to each month, one for a common year and one for a leap year. If the year of the inquiry is marked by an asterisk on Table 2A, it is a leap year. If the year of the inquiry is a leap year, the figure in the column with the heading "Leap Year" that corresponds to the month of the inquiry should be ADDED to the January 1 , midnight S.T. for the year of the inquiry. If the year is not a leap year, or if the inquiry takes place on a leap year, but
before February 29, the figure given in the left-hand column headed "Common Year" that corresponds to the month of the inquiry should be ADDED to the January 1, midnight S.T. for the year of the inquiry. If the inquiry occurs during the month of January, this step is unnecessary.

| EXAMPLE: | $6: 40: 06$ | S.T. for January 1, midnight 1975 |
| :--- | ---: | :--- |
|  | $+5: 55: 50$ | Increment for April 1975 |
|  | $12: 35: 56$ |  |

## EXERCISES:

7. Find the S.T. increments for the following months:
a. November 1978
b. January 1976
c. June 1981
d. September 1985
8. Find the midnight S.T. for the first day of the following months:
a. August 1975
b. December 1978
c. June 1980
d. May 1983

## PHASE I: STEP 7

CALCULATING SIDEREAL TIME FOR THE GREENWICH DATE (GD)
Now that we have found the S.T. for midnight of the first day of the month of the inquiry, we can determine the Sidereal Time for midnight of the Greenwich Date of the inquiry. To do this, we refer to Table 2C in Appendix III. The figure that corresponds to the GD of the inquiry should be ADDED to the midnight S.T. of the first day of the particular month.

$$
\begin{array}{lrl}
\text { EXAMPLE: } & 12: 35: 56 & \text { Midnight S.T. for April 1, } 1975 \\
& +01: 50: 24 & \text { Increment for April } 29 \\
& 14: 26: 20 &
\end{array}
$$

## EXERCISES:

9. Find the midnight S.T. increments for the following Greenwich dates:
a. September 23
b. April 15
c. October 28
d. June 14
10. Find the midnight S.T. for the following Greenwich dates:
a. January 7, 1976
b. September 18, 1979
c. June 25, 1982
d. December 3, 1985

## PHASE I: STEP 8 <br> CALCULATING ADJUSTED SIDEREAL TIME

Sidereal Time progresses at a rate of approximately three minutes and fifty-six seconds daily. This means that unless the GMT of an inquiry is midnight (00:00:00 GMT) we will have to add whatever fraction of three minutes and fifty-six seconds corresponds to the interval between midnight and GMT to the midnight S.T. for the inquiry's Greenwich Date. The result will be Adjusted Sidereal Time, or the S.T. for the GMT of the inquiry. Table 2D in Appendix III gives the correct proportion of three minutes and fifty-six seconds that should be used as an increment.

To find the increment, ADD the factor that corresponds to the hour of GMT to the factor that refers to the minutes of GMT.

$$
\begin{array}{llr}
\text { EXAMPLE: } & \text { for a GMT of } & 15: 10 \\
& 15 \text { hours } & 0: 02: 28 \\
& 10 \text { minutes } & +0: 00: 02 \\
& \text { Increment } & 0: 02: 30
\end{array}
$$

This increment should now be ADDED to the midnight S.T. for the Greenwich Date.

$$
\begin{array}{lrl}
\text { EXAMPLE: } & 14: 26: 20 & \text { Midnight S.T. for April } 29 \\
& +00: 02: 30 & \text { Increment for } 15: 10 \text { GMT } \\
& 14: 28: 50 & \text { Adjusted S.T. }
\end{array}
$$

EXERCISES:
11. Find the Adjusted S.T. for the following GMT and GD:
a. February 2, 1978; 08:16
b. July 23, 1981; 17:43
c. November 12, 1983; 9:38
d. June 10, 1985; 21:25

```
PHASE I: STEP 9
CALCULATING LOCAL SIDEREAL TIME (LST)
```

We have now come to the final step in the calculation of Local Sidereal Time. It involves correcting the Adjusted S.T. for the local time and place of the inquiry.

In order to complete this final step, the True Local Time of the inquiry should be ADDED to the Adjusted S.T.

$$
\begin{array}{lll}
\text { EXAMPLE: } & \begin{array}{ll}
14: 28: 50 & \\
& \text { Adjusted S.T. } \\
& 7: 00: 53
\end{array} & \text { TLT } \\
21: 29: 03 & \text { Local Sidereal Time }
\end{array}
$$

## When Local Sidereal Time Exceeds Twenty-four Hours

In some instances the addition of TLT to the Adjusted S.T. results in a figure greater than twenty-four hours. In such cases, twenty-four hours should be subtracted from the figure. The result will be a usable Local Sidereal Time.

$$
\begin{array}{lrll}
\text { EXAMPLE: } & \text { 18:05:39 } & \text { Adjusted } & \text { S.T. } \\
& +10: 00: 00 & \text { TLT } & \\
& 28: 05: 39 & & \\
& -24: 00: 00 & & \\
& 4: 05: 39 & \text { LST } &
\end{array}
$$

## Should the Seconds of Local Sidereal Time be Rounded Off?

Unless you know the time of an inquiry right down to the second, you may want to round off the seconds of Local Sidereal Time to the nearest minute. This may make the procedure of finding and adjusting the ascendant easier. Very little accuracy will be lost by doing so and the matter is really up to one's individual preference.

## EXERCISES:

12. Find the Local Sidereal Time for the following:
a. 6:55 Adjusted S.T., 3:15 TLT
b. 12:46 Adjusted S.T., 14:36 TLT
c. $4: 23$ Adjusted S.T., 8:47 TLT
d. 20:14 Adjusted S.T., 7:23 TLT

PHASE II: Ascendant, M.C, and House Cusps

## PHASE n: STEP 1 <br> FINDING THE ASCENDANT, THE M.C, AND HOUSE CUSPS

Now that we have calculated the Local Sidereal Time, our next task will be to find the ascendant, M.C, and house cusps, and to adjust the ascendant.

To find the ascendant, we must know the latitude of the place and the Local Sidereal Time. We must also have on hand a table of ascendants (Table 4 in Appendix HI) or a table of houses.

Finding the Ascendant
Most tables of houses include tables for every degree of geographic latitude between $0^{\circ}$ and $66^{\circ}$. The Table of Ascendants given in Appendix III is a condensed table of houses
and gives latitudes less frequently. First, locate the figure in the column headed "S.T." that is just earlier than the Local Sidereal Time of the inquiry (the figures in the S.T. column are given at intervals of twelve minutes). When we have found this figure (we will call it the "preceding S.T."), the "preceding ascendant" may be found directly to the right in the column under the latitude corresponding to or less than that of the place of the inquiry. The ascendants are given in degrees and minutes, and the sign of the ascendant appears between the degree column and minute column. Note that the sign may not be the one at the head of the column, but the last sign entered above the line of the preceding S.T.

EXAMPLE: 21:29 Local Sidereal Time<br>$37^{\circ} 52^{\prime}$ N. Latitude, Berkeley, California<br>21:24 Preceding S.T.<br>$9^{\circ} 39^{\prime}$ Gemini, Preceding Ascendant

## Adjusting the Ascendant to Local Sidereal Time

If there is a large interval between the LST and the preceding S.T., or if you desire the utmost accuracy, adjust the ascendant according to the simple procedure given below:

1. Find the interval between the LST and the preceding S.T. given in the Table of Ascendants. For example, if 21:29 is LST and 21:24 is the preceding S.T., the interval is five minutes.
2. Find the interval between the preceding ascendant and the proceeding ascendant (the ascendant directly below it in the same latitude column, corresponding to the next S.T.). For example, if the preceding S.T. is $21: 24$ and the preceding latitude is $36^{\circ}$, the preceding ascendant will be $9^{\circ} 39^{\prime}$ Gemini, while the proceeding ascendant will be $12^{\circ} 49^{\prime}$ Gemini. Therefore, the interval between $9^{\circ} 39^{\prime}$ Gemini and $12^{\circ} 49^{\prime}$ Gemini is $3^{\circ} 10^{\prime}$.
3. To find the adjustment factor that will correct the ascendant, refer to Table 5A in Appendix III. In the extreme left-hand column of this table find the number that corresponds to the minutes of the interval between LST and
the preceding S.T. Then move to the right until you come to the column headed by the number of degrees and minutes that is the closest to the interval between the preceding and proceeding ascendants. The figure listed there is the adjustment factor. For example, the adjustment factor for an interval of five minutes between the LST and the preceding S.T. and an interval of $3^{\circ} 10^{\prime}$ between the preceding and proceeding ascendants is $1^{\circ} 15^{\prime}$.

If there are any seconds involved in the interval between the LST and the preceding S.T. follow this same procedure with the seconds of the interval in the section of the table with the heading "SEC." in the extreme lefthand column. The adjustment factor for the seconds of this interval should then be ADDED to the adjustment factor for the minutes of interval. For example, if $1^{\circ} 15^{\prime}$ is the adjustment factor for the minutes of interval and $0^{\circ} 08^{\prime}$ is the adjustment factor for the seconds of interval, the total will be $1^{\circ} 23^{\prime}$.
4. The adjustment factor calculated in the above step should now be ADDED to the preceding ascendant. The result will be an ascendant adjusted to the LST of the inquiry.

EXAMPLE: | $21: 29$ | LST |  |
| :---: | :---: | :--- |
|  | $37^{\circ} 52^{\prime}$ | N. Latitude |
|  | $9^{\circ} 39^{\prime}$ | Gemini, Preceding Ascendant |
| $+1^{\circ} 15^{\prime}$ | Adjustment Factor |  |
|  | $10^{\circ} 54^{\prime}$ | Gemini, Adjusted Ascendant |

Adjusting the Ascendant to the Exact Latitude
In order to calculate the ascendant as accurately as possible, it is necessary to adjust the ascendant for the exact latitude of the place of inquiry. This can be easily done by following the instructions below:

1. Find the interval between the preceding latitude given in the Table of Ascendants and the exact latitude. For instance, the interval between $36^{\circ}$ latitude (the preceding latitude) and an exact latitude of $37^{\circ} 52^{\prime}$ is $1^{\circ} 52^{\prime}$.

Find the interval between the preceding ascendant and the ascendant that corresponds with the preceding S.T. of the next, or proceeding, latitude. For example, if the preceding S.T. is $21: 24$ and the exact latitude is $37^{\circ} 52^{\prime}$, the preceding ascendant will be $9^{\circ} 39^{\prime}$ Gemini while the ascendant corresponding with the next latitude $\left(40^{\circ}\right)$, and the same preceding S.T., will be $12^{\circ} 36^{\prime}$ Gemini. The interval between these two ascendants is then $2^{\circ} 57^{\prime}$.
3. Using Table 5B in Appendix III, find the adjustment factor that corresponds to the intervals just calculated above under Steps 1 and 2. For the above examples the adjustment factor is $0^{\circ} 45^{\prime}$ for one degree of interval between the preceding and exact latitude and $0^{\circ} 37^{\prime}$ for fifty-two minutes of interval. The total adjustment factor is then $1^{\circ} 22^{\prime}\left(0^{\circ} 45^{\prime}+0^{\circ} 37^{\prime}=1^{\circ} 22^{\prime}\right)$.
4. To find the exact ascendant, ADD the adjustment factor calculated above to the ascendant adjusted for the LST if the ascendant given for the preceding latitude is smaller than the ascendant given for the proceeding latitude. If the opposite is true, SUBTRACT the adjustment factor from the adjusted ascendant.

EXAMPLE: |  | $10^{\circ} 54^{\prime}$ |
| ---: | :--- |
| $+\quad 1^{\circ} 22^{\prime}$ | Gemini, Ascendant Adjusted for LST |
|  | $12^{\circ} 26^{\prime}$ | Exact Ascendant

## Finding the M.C

The M.C. for the preceding S.T. can be found in the Table of Ascendants (Table 4 in Appendix III) in the column headed "M.C," directly to the right of the S.T. For instance, the M.C. for $21: 24$ S.T. is $18^{\circ} 34^{\prime}$ Aquarius.

## Adjusting the M.C. to Local Sidereal Time

The M.C. for a certain S.T. remains the same (unlike the ascendant) regardless of geographic latitude. It does progress, though, as the Local Sidereal Time increases, and therefore you might want to adjust the M.C. to the LST. Adjusting the
M.C involves the same procedure and the same table is used in adjusting the ascendant to the Local Sidereal Time.

## Calculating the House Cusps

If you are using a table of houses, the degrees and signs of the house cusps are usually given to the left or right of the ascendant. In the Table of Ascendants included in Appendix III the cusps can be calculated by the Porphyry house division system as follows:

1. Calculate the number of degrees and minutes between the adjusted M.C. and the adjusted ascendant. For instance, the arc between an M.C. of $19^{\circ} 49^{\prime}$ Aquarius and $12^{\circ} 26^{\prime}$ Gemini is $113^{\circ} 37^{\prime}$ (see Figure 9).


Figure 9

2* Divide the arc of the distance between the M.C and the ascendant by three to the nearest minute of an arc. (For example, $113^{\circ} 37^{\prime} \div 3=37^{\circ} 52^{\prime}$.)
3. To find the cusp of the eleventh house, add the product of the above to the M.C. $\left(19^{\circ} 49^{\prime}\right.$ Aquarius $+37^{\circ} 52^{\prime}=$ $27^{\circ} 41^{\prime}$ Pisces.)

To find the cusp of the twelfth house, add $37^{\circ} 52^{\prime}$ to
the cusp of the eleventh house. ( $27^{\circ} 41^{\prime}$ Pisces + $37^{\circ} 52^{\prime}=5^{\circ} 33^{\prime}$ Taurus.)
14. The descendant, I.C, and the fifth and sixth house cusps are always exactly opposite the ascendant, M.C, and the eleventh and twelfth house cusps.
5. The number of degrees to be assigned the remaining houses can be found by subtracting the number of degrees in each house of the second and fourth quadrants from sixty. For instance, if there are $37^{\circ} 52^{\prime}$ in each house of the second and fourth quadrants, there will be $24^{\circ} 08^{\prime}$ in each of the remaining houses $\left(60^{\circ}-37^{\circ} 52^{\prime}=\right.$ $24^{\circ} 08^{\prime}$ ) (see Figure 10 ).


Figure 10

## Quadrant Midpoints

To find the quadrant midpoint, divide the number of degrees in the quadrant by two, and add the result to an angle. For example, if the fourth quadrant (between the M.C and
the ascendant) contains $113^{\circ} 37^{\prime}$, the midpoint of that quadrant is $56^{\circ} 48^{\prime}$ from the M.C.

## EXERCISES:

13. Find the adjusted ascendant and M.C. for the following Local Sidereal Times and latitudes:
a. 14:46 LST, $46^{\circ}$ Latitude
b. 23:22 LST, $34^{\circ}$ Latitude
c. $8: 12 \mathrm{LST}, 45^{\circ}$ Latitude
d. 11:54 LST, $31^{\circ}$ Latitude
14. Find the Porphyry house cusps for the following ascendants and M.C.s:
a. $14^{\circ} 15^{\prime}$ Aries M.C, $21^{\circ} 34^{\prime}$ Cancer Ascendant
b. $26^{\circ} 03^{\prime}$ Scorpio M.C, $18^{\circ} 45^{\prime}$ Aquarius Ascendant
c. $5^{\circ} 15^{\prime}$ Cancer M.C, $12^{\circ} 32^{\prime}$ Libra Ascendant
d. $11^{\circ} 20^{\prime}$ Leo M.C, $14^{\circ} 2^{\prime}$ Scorpio Ascendant

## PHASE HI: Planetary Positions

## PHASE m: STEP 1 <br> FINDING THE POSITIONS OF THE PLANETS

After we have calculated the ascendant and house cusps and placed them on the chart form, our next phase is to calculate the planetary positions. The ephemerides included in Table 7 in Appendix ID are necessarily condensed, giving the midnight GMT position of the moon once every other day; the positions of the sun, Mercury, and Venus once weekly; the positions of Mars, Jupiter, and Saturn once every other week; and the positions of Uranus, Neptune, and Pluto once monthly. Because these positions are given for predetermined days and for a predetermined time (midnight GMT), some adjustment is likely to be necessary if accuracy is desired.

Finding the Positions of the Planets in the Ephemeris
Note the reproduction of the ephemeris for 1975 in Table 7. Notice that the year of the particular ephemeris and the time that the positions are calculated for are given at the head of the table. The head of the individual columns are marked by the symbols of the planets. Once we have found the Greenwich Date in the column headed "Date," or the date in the column immediately before the Greenwich Date, the preceding longitude of the planets may be found in their respective columns. The sign occupied by a planet is indicated by the sign inserted in the planet's column just above the line corresponding with the desired date.

EXAMPLE: The midnight GMT position of<br>Venus on January 1, 1975, is $23^{\circ} 23^{\prime}$ Capricorn

## EXERCISES:

15. Find the midnight GMT positions of the following planets:
a. August 3, 1975; Mercury, Venus, and the sun
b. June 4, 1975; Mars, Jupiter, and Saturn
c. November 1, 1975; Uranus, Neptune, and Pluto
d. January 1, 1975; the moon.

## PHASE IIT: STEP 2 <br> ADJUSTING PLANETARY POSITIONS

A simple method of accurately adjusting the positions of the planets is given below, using tables of planetary motion. You'll find a complete set of these tables, especially designed to be compatible with the condensed ephemerides used here, in Table 6 in Appendix Ill.

## How to Use Tables of Planetary Motion

There are four distinct planetary motion tables in Table 6: one for the moon; another for the sun, Mercury, and Venus; a third for Mars, Jupiter, and Saturn; and a fourth for Uranus, Neptune, Pluto, and the lunar node. This is necessary because not only do the planets move at various rates, but the intervals between the entries of the planetary positions in the condensed ephemerides are also divided into four groups: the moon is given once every other day; the sun, Mercury, and Venus once every week; Mars, Jupiter, and Saturn once every two weeks; and Uranus, Neptune, Pluto, and the north lunar node once every month. To adjust the planetary positions follow this procedure:

1. Calculate the interval between the Greenwich Date and GMT and the first date entered in the ephemeris for a particular planet immediately before the Greenwich Date. For instance, if the Greenwich Date is April 29, 1975, and the GMT is 15:10, the interval between the GD and GMT and the preceding date in the sun, Mercury, and Venus columns is six days, fifteen hours, and ten minutes; in the Mars, Jupiter, and Saturn columns the interval in this case is also six days, fifteen hours, and ten minutes; in the Uranus, Neptune, and Pluto columns the interval is twenty-nine days, fifteen hours, and ten minutes; finally, in the moon's table the interval is fifteen hours and ten minutes.
2. Find the motion of the planets, which is the number of degrees and/or minutes a planet progressed through the zodiac, or regressed in the case of retrogradation, between the two entries in the ephemeris before and after the Greenwich Date. When a planet is retrograde a letter " $R$ " is inserted into the planet's column. A "D" (for "direct") is inserted when the planet is no longer retrograde. For instance, if the GD is April 29, 1975, the ephemeris entries immediately before and after this date are given on April 23 and April 30 for the sun, Mercury, and Venus. To find the weekly motion of these planets, sub-
tract the planetary position given for the earlier date from the position given for the latter date. The sun occupied $2^{\circ} 14^{\prime}$ Taurus at midnight GMT on April 23, 1975, and $9^{\circ} 02^{\prime}$ Taurus on midnight GMT for April 29, 1975. The weekly motion of the sun for that period of time was therefore $6^{\circ} 48^{\prime}\left(9^{\circ} 02^{\prime}-2^{\circ} 14^{\prime}=6^{\circ} 48^{\prime}\right)$. If the planet was retrograde, the latter position should be subtracted from the earlier.
3. Once the motions of all the planets have been calculated, refer to the proper table of planetary motion and find the vertical column headed by the number of degrees and minutes nearest to the motion of a particular planet.
4. Then go down the column until you come to the line that corresponds to the number in the extreme left column representing the days of the interval between the Greenwich Date and preceding date in the ephemeris. The figure given on that line is the adjustment factor for the days of the interval. For example, if the interval is six days and the motion of the sun is $6^{\circ} 48^{\prime}$ the adjustment factor for the days of the interval is $6^{\circ}$.
5. Then go to the lower section of the table and follow this same procedure for the hours of the interval. For example, the adjustment factor for fifteen hours interval and a planetary motion of $6^{\circ} 48^{\prime}$ is $0^{\circ} 38^{\prime}$.
6. At the bottom of the table for the moon is another section that may be used to find the adjustment factor for the minutes of interval.
7. When you have found the adjustment factor for the hours (and, in the case of the moon, minutes) of interval for a particular planet, it should be ADDED to the adjustment factor for the days of interval. The sum will be the total adjustment factor of the position of the planet.
8. The total adjustment factor calculated above should now be ADDED to the midnight GMT position of the planet given in the ephemeris for the date just before the Greenwich Date. Or, if the Greenwich Date is the same as a date given in the ephemeris, the adjustment factor should be added to its position. For example, if the Greenwich Date is April 29, 1975, and the GMT is $15: 10$, the mid-
night position for the sun for the date given in the ephemeris just before the GD is $2^{\circ} 14^{\prime}$ Taurus (midnight position, April 23, 1975) and the weekly motion of the sun is $6^{\circ} 48^{\prime}$; the adjustment factor for an interval of six days, fifteen hours, and ten minutes is $6^{\circ} 38^{\prime}$. The exact position of the sun is $2^{\circ} 14^{\prime}$ Taurus $+6^{\circ} 38^{\prime}=8^{\circ} 52^{\prime}$ Taurus. If the planet has a retrograde motion at the time of the inquiry, however, the adjustment factor should be SUBTRACTED instead of added.

## When the Exact Position of a Planet Exceeds 30 Degrees

When the adjustment factor is added to a position of a planet, the result may be greater than thirty degrees. In such cases, thirty degrees should be subtracted and the next sign given to the planet.

$$
\text { EXAMPLE: } \begin{aligned}
& 29^{\circ} 54^{\prime} \\
& +0^{\circ} 23^{\prime} \\
& 30^{\circ} 17^{\prime} \\
& \\
& \frac{-30^{\circ} 00^{\circ}}{00^{\circ} 17^{\prime}} \text { Sdjustment Factor } \\
&
\end{aligned}
$$

## When the Adjustment Factor Is Greater Than a Position

It can also happen that when the adjustment factor has to be subtracted (when a planet is retrograde) from a planetary position the adjustment factor may be the greater of the two. In such instances $30^{\circ}$ should be added to the ephemeris position and one sign taken from the planet's position.

EXAMPLE: |  | $0^{\circ} 13^{\prime}$ | Cancer |
| ---: | :--- | :--- |
| - | $1^{\circ} 16^{\prime}$ | Adjustment Factor |
|  | $0^{\circ} 13^{\prime}$ | Cancer |
| + | $30^{\circ} 00^{\prime}$ |  |
| $30^{\circ} 13^{\prime}$ | Gemini |  |
| $=-1^{\circ} 16^{\prime}$ | Adjustment Factor |  |
| $29^{\circ} 07^{\prime}$ | Gemini |  |

## Stationary Positions

The condensed ephemerides used here also give tabulations for the stationary positions of the planets. A station is the point in time and zodiacal space that a planet appears to be standing motionless, between retrograde and direct motion, or vice versa. If a planet is stationary between the Greenwich Date and the date given in the ephemeris immediately before the Greenwich Date, some additional interpolation may be necessary.

## PHASE III: STEP 3 <br> PLACING THE PLANETS IN THE HOUSES

Our final task in this part will be the placement of the planets in the houses. This step simply involves entering the planets between the house's cusps in which the degrees and sign of the planet falls.

## PHASE IV: Finding the Planetary Aspects

We are now ready to find the planetary aspects (the angular relationships between two or more planets, or between two or more planets and one of the angles).

## When Are Aspects Formed?

An aspect is formed when two or more planets, or two or more planets and one of the angles, are within a certain number of degrees from each other. There are many aspectual angles used in astrology; the major ones are listed below.

## Orbs

Each aspect is given an orb, which is a certain number of degrees more or less than the exact degree of the aspect allowable for the planets still to be considered in aspect. Thus, if two planets are $87^{\circ}$ apart, they are still considered to be in square aspect to each other even though the exact aspect
by definition is $90^{\circ}$. The size of the orb allowed differs a good deal depending upon the particular planets and the astrologer. The general tendency seems to be moving in the direction of smaller orbs at this time. The orbs given with the aspects below are the orbs recommended for initial use.

| ASPECT | SYMBOL | DISTANCE BETWEEN | ORB | KEYWORD |
| :---: | :---: | :---: | :---: | :---: |
| Conjunction | $\bigcirc$ | $0^{\circ}$ | $7^{\circ}-10^{\circ}$ | Unifying |
| Semisquare |  | $45^{\circ}$ | $2^{\circ}-3^{\circ}$ | Intense |
| Sextile | $x$ | $60^{\circ}$ | $2^{\circ}-3^{\circ}$ | Productive |
| Square |  | $90^{\circ}$ | $5^{\circ} \cdot 6^{\circ}$ | Constructive |
| Trine | A | $120^{\circ}$ | $6^{\circ}-7^{\circ}$ | Cooperating |
| Opposition | $0^{\circ}$ | $180^{\circ}$ | $8^{\circ}-10^{\circ}$ | Opposing or Complementary |
| EXAMPLE | 1: Jupiter <br> Saturn <br> Jupiter with a | $\begin{aligned} & 22^{\circ} 35^{\prime} \\ & \frac{20^{\circ} 41^{\prime}}{1^{\circ} 54^{\prime}} \end{aligned}$ <br> and Saturn $1^{\circ} 54$ orb. | Leo <br> Leo <br> Distanc are in | e Between <br> onjunction |
| EXAMPLE | 2: Moon ASC <br> Moon | $\begin{array}{r} 29^{\circ} 01^{\prime} \\ 27^{\circ} 23^{\prime} \\ \hline 1^{\circ} 48^{\prime} \end{array}$ <br> is square AS | Taurus <br> Leo <br> and 3 sig <br> C with a | ns or $90^{\circ}$ $1^{\circ} 48^{\prime}$ orb. |
| EXAMPLE | 3: Venus <br> Mars <br> Venus orb. | $\begin{aligned} & 26^{\circ} 19^{\prime} \\ & \frac{22^{\circ} 59^{\prime}}{\underline{\underline{3^{\circ}} 20^{\prime}}} \end{aligned}$ <br> and Mars | Virgo Gemini and 3 si are squa | ns or $90^{\circ}$ with a $3^{\circ} 20^{\prime}$ |

Some Easy Rules for Finding Aspects

1. Check the modes. Signs of the same mode are spaced at intervals of $90^{\circ}$. Thus, two planets in the same mode but not the same sign are most likely to form no other aspect except squares or oppositions.

$$
\begin{aligned}
\text { EXAMPLE: } & \text { Sun } 10^{\circ} \text { Scorpio is square to Mars } 12^{\circ} \\
& \text { Leo, both being in fixed signs. }
\end{aligned}
$$

2. The same is true for the elements, only at $120^{\circ}$ intervals, thus forming trines.

> EXAMPLE: Moon $19^{\circ}$ Pisces is trine with Venus $22^{\circ}$ Cancer, both being water signs.
3. Conjunctions are obvious, due to their closeness.
4. Semisquares are always one and one half signs more or less than the position of the planet.

Drawing in Aspect Patterns
Aspected planets may be connected by colored lines on the birth chart as an aid to visual interpretations. The sextiles and trines may be done in blue ink; the conjunctions, semisquares, squares, and oppositions in red.

## ADDITIONAL STUDIES

Southern Hemispheric Inquiries
If the inquiry takes place in the Southern Hemisphere (south latitude), some additional adjustments must be made:

1. ADD 12 hours to the LST.
2. The ASC and house cusps are found by using the north latitude in the Table of Houses, which is of the same degree as the latitude for the place of the inquiry. The signs for the ASC and cusps should then be reversed.

EXAMPLE: | 13:57:17 | LST |
| ---: | :--- |
| $+12: 00: 00$ | For S. Latitude |
| $25: 53: 17$ |  |
|  | $-24: 00: 00$ |
| For LST over twenty-four hours |  |
| $1: 53: 17$ | LST for S. Latitude |
| ASC for $1: 53: 17$ for $41^{\circ} \mathrm{N}$. Latitude is $12^{\circ}$ |  |
| Leo; by reversing the sign we have an ASC |  |
| of $12^{\circ}$ Aquarius for the south latitude |  |

## Part of Fortune

Some astrologers (including this writer) use one of the Arabic parts, the Part of Fortune. It may be found by the formula: ascendant plus moon minus sun.

EXAMPLE: \begin{tabular}{rllr}

$27^{\circ}$ \& Taurus ASC. \& | (2nd sign) |
| ---: |
| $+29^{\circ}$ | \& Leo Moon <br>

$+\left(5 t^{2}\right.$ sign) <br>
$56^{\circ}$ \& Libra \& (7th sign) <br>
$-30^{\circ}$ \& \& <br>
\hline $26^{\circ}$ \& Scorpio \& (8th sign) <br>
$-3^{\circ}$ \& Leo Sun \& $-(5 \mathrm{th}$ sign) <br>
$23^{\circ}$ \& Gemini \& (3rd sign)
\end{tabular}

The Part of Fortune is $23^{\circ}$ Gemini.

## Retrograde Motion

Planets do not actually change their direction of motion; they simply appear to from the point of view of the earthbound observer. This phenomenon is brought about by the relationship existing between the position of the earth in its orbit and the positions of other planets in their respective orbits. In the case of Mars, for example, earth occupies a position in the solar system nearer the sun, and thus it requires less time to complete one orbit around the central solar body ( 365 days for earth, 687 for Mars). When in the course of its orbit earth approaches the position of Mars, the apparent daily motion of Mars begins to decelerate (see Position 1 in Figure 11); several weeks later Mars appears stationary (Position 2). Mars then begins its retrograde phase as earth overtakes it in space (Position 3) remaining in retrograde for fifty-eight to eighty-one days.


Figure 11

Earth's Revolution Around the Sun and the Phenomena of the Ecliptic

As discussed in Step 2, Phase III of the text, the apparent path of the sun around the earth represents the ecliptic of the zodiac. The sun is actually stationary, or at least relatively so, in space while the earth actually revolves around it. This actual revolution produces the apparent solar motion and the ecliptic of the zodiac (see Figure 12).


Figure 12

## Maximum Planetary Latitudes

| Moon: | $5^{\circ}-6^{\circ}$ | Jupiter: | $11 \not 2^{\circ}$ |
| :--- | :--- | :--- | :--- |
| Mercury: | $4^{\circ}-5^{\circ}$ | Saturn: | $3^{\circ}$ |
| Venus: | $7^{\circ}-8^{\circ}$ | Uranus: | $1^{\circ}$ |
| Mars: | $3^{\circ}$ | Neptune: | $2^{\circ}$ |
|  |  | Pluto: | $18^{\circ}$ |

Average Daily Motion of the Planets

| Sun: | $59^{\prime} 08^{\prime \prime}$ | Jupiter: | $4^{\prime} 59^{\prime \prime}$ |
| :--- | :--- | :--- | :--- |
| Moon: | $13^{\circ} 10^{\prime} 35^{\prime \prime}$ | Saturn: | $2^{\prime} 01^{\prime \prime}$ |
| Mercury: | $1^{\circ} 23^{\prime}$ | Uranus: | $0^{\prime} 42^{\prime \prime}$ |
| Venus: | $1^{\circ} 12^{\prime}$ | Neptune: | $0^{\prime} 24^{\prime \prime}$ |
| Mars: | $31^{\prime} 27^{\prime \prime}$ | Pluto: | $0^{\prime} 1^{\prime \prime}$ |

Table of Retrograde Motions

| Mercury: | $\mathbf{2 0 - 2 4}$ days | Saturn: | $\mathbf{4 1 2}$ months |
| :--- | :--- | :--- | :--- |
| Venus: | $40-43$ days | Uranus: | 5 months |
| Mars: | $58-81$ days | Neptune: | 5 months |
| Jupiter: | 4 months | Pluto: | 6 months |

## ANSWERS TO EXERCISES

| I. | a. $37^{\circ} 47^{\prime} \mathrm{N} . ; 122^{\circ} 26^{\prime} \mathrm{W}$. <br> b. $41^{\circ} 52^{\prime} \mathrm{N} . ; 7^{\circ} 39^{\prime} \mathrm{W}$. <br> c. $41^{\circ} 18^{\prime} \mathrm{N} . ; 2^{\circ} 55^{\prime} \mathrm{W}$. <br> d. $39^{\circ} 45^{\prime} \mathrm{N} . ; 104^{\circ} 59^{\prime} \mathrm{W}$. |  |
| :---: | :---: | :---: |
| 2. ${ }^{\text {a }}$ | a. 9:23 A.M. <br> b. 6:18 P.M. | c. 2:15 A.M <br> d. $4: 45$ P.M |
| 3. a | a. $13: 34$ <br> b. $8: 36$ | c. $22: 13$ <br> d. 00:56 |
| 4. | a. $8: 10$ GMT; May 17 , <br> b. 20:57 GMT; April 13, <br> c. 10:35 GMT; July 1 !2, 1 <br> d. 2:53 GMT; August 7, <br> e. $8: 10$ GMT; September <br> f. $4: 22$ GMT; November <br> g- 6:11 GMT; March 12, <br> h. 16:53 GMT; December | $\begin{aligned} & 1975 \mathrm{GD} \\ & 1979 \mathrm{GD} \\ & 981 \text { (3D } \\ & 1975^{\circ} \mathrm{GD} \\ & 5,1982 \mathrm{GD} \\ & 23,1985 \\ & 1977 \\ & 19,1975 \end{aligned}$ |
| 5. a | a. 12:33:24 <br> b. $4: 49: 32$ | c. $20: 58: 20$ <br> d. 15:49:20 |
| 6. a | a. 6:42:08 <br> b. 6:40:14 | c. $6: 40: 17$ <br> d. $6: 42: 18$ |
| 7. a | a. 19:59:33 <br> b. 0:00:00 | c. $9: 56: 20$ <br> d. 15:59:33 |
| 8. a | a. 20:36:56 <br> b. $4: 38: 59$ | c. $16: 39: 31$ <br> d. $14: 34: 24$ |
| 9. a | a. 1:26:44 <br> b. $0: 55: 12$ | c. $1: 46: 27$ <br> d. 0:51:15 |
| 10. a | a. 7:02:48 <br> b. $23: 46: 18$ | c. 18:12:11 <br> d. $4: 48: 00$ |
| 11. a | a. $12: 48: 42$ <br> b. 20:06:27 | c. $3: 24: 47$ <br> d. 17:19:38 |

12. a. $10: 10$
c. $13: 10$
b. $3: 22$
d. $3: 37$
13. a. Asc. $14^{\circ} 28^{\prime}$ Capricorn; M.C. $10^{\circ} 53^{\prime}$ Scorpio
b. Asc. $6^{\circ} 56^{\prime}$ Cancer; M.C. $19^{\circ} 42^{\prime}$ Pisces
c. Asc. $25^{\circ} 01^{\prime}$ Libra; M.C. $0^{\circ} 47{ }^{\prime}$ Leo
d. Asc. $15^{\circ} 11^{\prime}$ Sagittarius; M.C. $28^{\circ} 29^{\prime}$ Virgo
14. a. 11. $16^{\circ} 41^{\prime}$ Taurus
15. $19^{\circ} 07^{\prime}$ Gemini
16. $19^{\circ} 07^{\prime}$ Leo
17. $16^{\circ} 41^{\prime}$ Virgo
b. 11. $23^{\circ} 37^{\prime}$ Sagittarius
18. $21^{\circ} 11^{\prime}$ Capricorn
19. $21^{\circ} 11^{\prime}$ Pisces
20. $23^{\circ} 37^{\prime}$ Aries
c. $11.7^{\circ} 41^{\prime}$ Leo
21. $10^{\circ} 17^{\prime}$ Virgo
22. $10^{\circ} 17^{\prime}$ Scorpio
23. $7^{\circ} 41^{\prime}$ Sagittarius
d. 11. $12^{\circ} 20^{\prime}$ Virgo
24. $13^{\circ} 20^{\prime}$ Libra
25. $13^{\circ}{ }^{2} 0^{\prime}$ Sagittarius
26. $12^{\circ} 20^{\prime}$ Capricorn
27. $16^{\circ} 41^{\prime}$ Scorpio
28. $19^{\circ} 07^{\prime}$ Sagittarius
29. $19^{\circ} 07^{\prime}$ Aquarius
30. $16^{\circ} 41^{\prime}$ Pisces
31. $23^{\circ} 37^{\prime}$ Gemini
32. $21^{\circ} 11^{\prime}$ Cancer
33. $21^{\circ} 11^{\prime}$ Virgo
34. $23^{\circ} 37^{\prime}$ Libra
35. $7^{\circ} 41^{\prime}$ Aquarius
36. $10^{\circ} 17^{\prime}$ Pisces
37. $10^{\circ} 17^{\prime}$ Taurus
38. $7^{\circ} 41^{\prime}$ Gemini
39. $12^{\circ} 20^{\prime}$ Pisces
40. $13^{\circ} 20^{\prime}$ Aries
41. $13^{\circ} 20^{\prime}$ Gemini
42. $12^{\circ} 20^{\prime}$ Cancer
43. a. Mercury $11^{\circ} 30^{\prime}$ Leo Venus $11^{\circ} 20^{\prime}$ Virgo Sun $10^{\circ} 37^{\prime}$ Leo
b. Mars $10^{\circ} 12^{\prime}$ Aries Jupiter $17^{\circ} 18^{\prime}$ Aries Saturn $17^{\circ} 25^{\prime}$ Cancer
c. Uranus $3^{\circ} 09^{\prime}$ Scorpio Neptune $10^{\circ} 19^{\prime}$ Sagittarius Pluto $10^{\circ} 14^{\prime}$ Libra
d. Moon $19^{\circ} 11^{\prime}$ Leo

## APPENDIX III

## TABLES

1. Daylight Saving Time Dates
2. Sidereal Time and Increments
3. Latitudes and Longitudes in the U.S.A.
4. Ascendants
5. Ascendant Adjustments
6. Planetary Adjustments
7. Ephemerides 1975-1980

## TABLE 1 <br> DAYLIGHT SAVING TIME DATES

Effective 2:00 A.M.

| Year | Dates | Year | Dates |
| :--- | :---: | :---: | :---: |
| 1975 | $4 / 27-10 / 26$ | 1988 | $4 / 24-10 / 30$ |
| 1976 | $4 / 25-10 / 31$ | 1989 | $4 / 30-10 / 29$ |
| 1977 | $4 / 24-10 / 30$ | 1990 | $4 / 29-10 / 28$ |
| 1978 | $4 / 30-10 / 29$ | 1991 | $4 / 28-10 / 27$ |
| 1979 | $4 / 29-10 / 28$ | 1992 | $4 / 26-10 / 25$ |
| 1980 | $4 / 27-10 / 26$ | 1993 | $4 / 25-10 / 31$ |
| 1981 | $4 / 26-10 / 25$ | 1994 | $4 / 24-10 / 30$ |
| 1982 | $4 / 25-10 / 31$ | 1995 | $4 / 30-10 / 29$ |
| 1983 | $4 / 24-10 / 31$ | 1996 | $4 / 28-10 / 27$ |
| 1984 | $4 / 29-10 / 28$ | 1997 | $4 / 27-10 / 26$ |
| 1985 | $4 / 28-10 / 27$ | 1998 | $4 / 26-10 / 25$ |
| 1986 | $4 / 27-10 / 26$ | 1999 | $4 / 25-10 / 31$ |
| 1987 | $4 / 26-10 / 25$ | 2000 | $4 / 30-10 / 29$ |

## TABLE 2: SIDEREAL TIME AND INCREMENTS

TABLE 2A SIDEREAL TIME FOR JAN. 1; MIDNIGHT

|  | H. M. S. |  | H. M. S. |
| :---: | :---: | :---: | :---: |
| 1975 | 64006 | 1989 | 64226 |
| *1976 | 63909 | 1990 | 64128 |
| 1977 | 64208 | 1991 | 64030 |
| 1978 | $6 \quad 4110$ | *1992 | 63933 |
| 1979 | $6 \quad 4014$ | 1993 | 64234 |
| *1980 | $6 \quad 3915$ | 1994 | 64136 |
| 1981 | $6 \quad 4212$ | 1995 | 64039 |
| 1982 | $6 \quad 4114$ | "1996 | 63941 |
| 1983 | $6 \quad 4017$ | 1997 | 64242 |
| *1984 | $6 \quad 3919$ | 1998 | 64145 |
| 1985 | $6 \quad 4218$ | 1999 | 64047 |
| 1986 | $6 \quad 4120$ | *2000 | 63949 |
| 1987 | $6 \quad 4023$ | 2001 | 64250 |
| *1988 | 63925 | 2002 | 64152 |

[^2]TABLE 2B

## SIDEREAL TIME INCREMENTS FOR THE MONTHS



TABLE 2C
SIDEREAL TIME INCREMENTS FOR THE DAYS

| Day | H. M. S. | Day | H. M. S. |
| :---: | :---: | :---: | :---: |
| 2. | 000357 | 17. | 010305 |
| 3. | 000753 | 18. | 010701 |
| 4. | 001150 | 19. | 011058 |
| 5. | 001546 | 20. | 011456 |
| 6. | 001943 | 21. | 011851 |
| 7. | 002339 | 22. | 012248 |
| 8. | 002736 | 23. | 012644 |
| 9. | 003132 | 24. | 013041 |
| 10. | 003529 | 25. | 013437 |
| 11. | 003926 | 26. | 013834 |
| 12. | 004322 | 27. | 014230 |
| 13. | 004719 | 28. | 014627 |
|  | 005115 | 29. | 015024 |
| 15. | 005512 | 30. | 015420 |
| 16. | 005908 | 31. | 015817 |

## TABLE 2D

S.T. ACCELERATION TABLE

| Hours of Interval | Factor | Minutes of Interval | Factor |
| :---: | :---: | :---: | :---: |
| 1 | $10^{\prime \prime}$ | 0-3 | $0^{\prime \prime}$ |
| 2 | $20^{\prime \prime}$ | 4-9 | $1^{\prime \prime}$ |
| 3 | $30^{\prime \prime}$ | 10-15 | $2 \prime$ |
| 4 | 40" | 16-21 | 3' |
| 5 | $50^{\prime \prime}$ | 22-27 | $4{ }^{\prime \prime}$ |
| 6 | $1^{\prime} 00{ }^{\prime \prime}$ | 28-33 | 5" |
| 7 | $1^{\prime} 00{ }^{\prime \prime}$ | 34-39 | $6{ }^{\prime \prime}$ |
| 8 | $1^{\prime} 19^{\prime \prime}$ | 40-45 | $7{ }^{\prime \prime}$ |
| 9 | $1^{\prime \prime} 29^{\prime \prime}$ | 46-51 | 8" |
| 10 | $1^{\prime} 39^{\prime \prime}$ | 52-57 | 9" |
| 11 | $1^{\prime} 49^{\prime \prime}$ | 58-60 | 10" |
| 12 | $1^{\prime} 59^{\prime \prime}$ |  |  |
| 13 | 2' 08'' |  |  |
| 14 | $2^{\prime} 18^{\prime \prime}$ |  |  |
| 15 | 2' 28' |  |  |
| 16 | 2' $38^{\prime \prime}$ |  |  |
| 17 | $2^{\prime} 48{ }^{\prime \prime}$ |  |  |
| 18 | $2^{\prime} 57^{\prime \prime}$ |  |  |
| 19 | $3^{\prime} 07 \prime$ |  |  |
| 20 | $3^{\prime \prime} 17^{\prime \prime}$ |  |  |
| 21 | 3' 27' |  |  |
| 22 | 3' 37' |  |  |
| 23 | 3' 47' |  |  |

## TABLE 3: LATITUDES AND LONGITUDES IN THE U.S.A.

|  | Lat N | Long W | Hours WEST of Greenwich | TLT Variation from Standard Time |
| :---: | :---: | :---: | :---: | :---: |
| ALABAMA: | 2. | 0 |  | m s |
| Montgomery | 3221 | 8G 18 | 6 | +14 48 |
| ALASKA: |  |  |  |  |
| Anchorage | 6110 | 14955 | 10 | + 020 |
| Fairbanks | 6451 | 14743 | 10 | + 908 |
| Juneau | 5818 | 13425 | 8 | -5740 |
| ARIZONA: |  |  |  |  |
| Phoenix | 3327 | 11204 | 7 | -28 16 |
| ARKANSAS |  |  |  |  |
| Little Rock | 3445 | 9216 | 6 | - 904 |
| CALIFORNIA: |  |  |  |  |
| Berkeley | 3752 | 12216 | 8 | - 904 |
| Eureka | 4048 | 12410 | 8 | -16 40 |
| Los Angeles | 3403 | 11815 | 8 | + 700 |
| Oakland | 3748 | 12216 | 8 | - 904 |
| Sacramento | 3835 | 12130 | 8 | - 600 |
| San Bernadino | 3406 | 11718 | 8 | +10 48 |
| San Diego | 3243 | 11710 | 8 | +1120 |
| San Francisco | 3747 | 12226 | 8 | - 944 |
| COLORADO: |  |  |  |  |
| Colorado Springs | 3850 | 10449 | 7 | + 044 |
| Denver | 3945 | 10459 | 7 | + 004 |
| CONNECTICUT: |  |  |  |  |
| Hartford | 4146 | 7241 | 5 | + 916 |
| New Haven | 4118 | 7255 | 5 | + 820 |
| DELAWARE: |  |  |  |  |
| Dover | 3909 | 7532 | 5 | - 208 |
| DISTRICT OF COLUMBIA: |  |  |  |  |
| Washington | 3853 | 7700 | 5 | - 802 |
| FLORIDA: |  |  |  |  |
| Miami | 2547 | $80 \quad 11$ | 5 | -20 44 |
| Pensacola | 3025 | 8713 | 6 | +1108 |
| Tampa | 2757 | 8227 | 5 | -29 48 |
| GEORGIA: |  |  |  |  |
| Atlanta | 3346 | 8423 | 5 | -37 32 |
| HAWAII: |  |  |  |  |
| Honolulu | 2119 | 15752 | 10.5 | + 128 |
| Hilo | 1944 | 15505 | 10.5 | + 940 |
| IDAHO: |  |  |  |  |
| Boise | 4337 | 11612 | 7 | -44 48 |


|  | Lat N | Long W | Hours WEST of Greenwich | TLT Variation from Standard Time |
| :---: | :---: | :---: | :---: | :---: |
| ILLINOIS: | $\bigcirc$ | - |  | m s |
| Chicago | 4152 | 8739 | 6 | + 924 |
| Peoria | 4943 | 8935 | 6 | +140 |
| Rock ford | 4216 | 8906 | 6 | + 336 |
| INDIANA: |  |  |  |  |
| Fort Wayne | 4104 | 8509 | 6 | +19 24 |
| Gary | 4136 | 8720 | 6 | +10 40 |
| Indianapolis | 3946 | 8610 | 6 | +15 20 |
| IOWA: |  |  |  |  |
| Cedar Rapids | 4159 | 9140 | 6 | - 640 |
| Oes Moines | 4136 | 9338 | 6 | -14 32 |
| lowa City | 4140 | 9132 | 6 | - 608 |
| KANSAS: |  |  |  |  |
| Kansas City | 3907 | 9438 | 6 | -18 32 |
| Wichita | 3742 | 9720 | 6 | -29 20 |
| KENTUCKY: |  |  |  |  |
| Louisville | 3815 | 8545 | 5 | -4300 |
| LOUISIANA |  |  |  |  |
| Baton Rouge | 3026 | 9111 | 6 | - 444 |
| New Orleans | 2957 | 9004 | 6 | - 016 |
| MAINE: |  |  |  |  |
| Augusta | 4419 | 6947 | 5 | +20 52 |
| Portland | 4339 | 7016 | 5 | +1856 |
| MARYLAND |  |  |  |  |
| Annapolis | 3859 | 7629 | 5 | - 556 |
| Baltimore | 3919 | 7637 | 5 | - 628 |
| MASSACHUSETTS: |  |  |  |  |
| Boston | 4222 | 7104 | 5 | +15 44 |
| Cambridge | 4222 | 7107 | 5 | +15 32 |
| Pittsfield | 4227 | 7315 | 5 | + 700 |
| Springfield | 4203 | 7236 | 5 | + 936 |
| MICHIGAN: |  |  |  |  |
| Benton Harbor | 4207 | 8628 | 5 | -45 52 |
| Detroit | 4220 | 8303 | 5 | -32 12 |
| Flint | 4301 | 8341 | 5 | -34 44 |
| Grand Rapids | 4255 | 8540 | 5 | -42 40 |
| MINNESOTA: |  |  |  |  |
| Duluth | 4647 | 9206 | 6 | - 824 |
| Minneapolis | 4459 | 9316 | 6 | -13 04 |
| MISSISSIPPI: |  |  |  |  |
| Jacksonville | 3218 | 9011 | 6 | - 044 |
| MISSOURI: |  |  |  |  |
| Kansas City | 3906 | S4 36 | 6 | -18 24 |
| St. Louis | 3838 | 9012 | 6 | - 048 |


|  |  |  |  | Hours <br> WEST of <br> Greenwich | TLT Variation <br> from Standard |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Lat N | Limer |  |  |  |


| RHODE ISLAND: | $\underset{0}{\operatorname{Lat} \mathrm{~N}}$ | $\underset{0}{\text { Long }} \mathbb{W}$ | Hours WEST of Greenwich | TLT Variation from Standard Time m s |
| :---: | :---: | :---: | :---: | :---: |
| Providence | 4149 | 7125 | 6 | +1420 |
| SOUTH CAROLINA: |  |  |  |  |
| Charleston | 3242 | 7953 | 5 | -19 32 |
| SOUTH DAKOTA: |  |  |  |  |
| Sioux Falls | 4333 | 9644 | 6 | -26 56 |
| TENNESSEE: |  |  |  |  |
| Memphis | 3509 | 9003 | 6 | 012 |
| Nashville | 3610 | 8847 | 6 | +1252 |
| TEXAS: |  |  |  |  |
| Dallas | 3247 | 9647 | 6 | -27 08 |
| Houston | 2945 | 9523 | 6 | -21 32 |
| UTAH: |  |  |  |  |
| Salt Lake City | 4046 | 11154 | 7 | -27 36 |
| VERMONT: |  |  |  |  |
| Montpelier | 4416 | 7235 | 5 | + 940 |
| VIRGINIA: |  |  |  |  |
| Arlington | 3853 | 7706 | 5 | - 824 |
| Norfolk | 3651 | 7618 | 5 | - 512 |
| WASHINGTON: |  |  |  |  |
| Seattle | 4737 | 12220 | 8 | - 9.20 |
| Spokane | 4740 | 11725 | 8 | +1020 |
| WEST VIRGINIA |  |  |  |  |
| Charlest own | 3821 | 8138 | 5 | -26 32 |
| Wheeling | 4004 | 8044 | 5 | -22 56 |
| WISCONSIN: |  |  |  |  |
| Madison | 4305 | 8924 | 6 | + 224 |
| Milwaukee | 4302 | 8755 | 6 | + 820 |
| WYOMING: |  |  |  |  |
| Cheyenne | 4109 | 10449 | 7 | + 044 |
| Casper | 4251 | 10618 | 7 | - 512 |

TABLE 4: ASCENDANTS

| S.T. | M.C. |  | $24^{\circ}$ |  | $28^{\circ}$ |  | $32^{\circ}$ |  | $36^{\circ}$ |  | $40^{\circ}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| h m | - |  | - | , | 0 | - | $\bigcirc$ | , | $\bigcirc$ | - | - |  |
| 000 |  | 00 | 10 |  | 110 |  | 13 |  | 16 |  |  |  |
| 012 | 3 | 16 | 12 | 42 | 14 | 34 | 16 | 33 | 18 | 39 | 20 | 55 |
| 024 | 6 | 32 | 15 | 21 | 17 | 11 | 19 | 06 | 21 | 10 | 23 | 22 |
| 036 | 9 | 48 | 17 | 59 | 19 | 46 | 21 | 39 | 23 | 39 | 25 | 48 |
| 048 | 13 | 03 | 20 | 37 | 22 | 21 | 24 | 11 | 26 | 08 | 28 | 12 |
| 100 | 16 | 17 | 23 | 14 | 24 | 56 | 26 | 43 | 28 | 36 |  | 36 |
| 112 | 19 | 30 | 25 | 51 | 27 | 30 | 29 | 14 |  | 03 | 2 | 59 |
| 124 | 22 | 42 | 28 | 27 |  | 04 |  | 44 | 3 | 13 | 5 | 22 |
| 136 | 25 | 53 | 19 | 04 | 2 | 37 | 4 | 14 | 5 | 56 | 7 | 44 |
| 148 | 29 | 03 | 3 | 40 | 5 | 11 | 6 | 44 | 8 | 22 | 10 | 16 |
| 200 |  | 11 | 6 | 17 | 7 | 44 | 9 | 14 | 10 | 49 | 12 | 28 |
| 212 | 5 | 18 | 8 | 54 | 10 | 18 | 11 | 44 | 13 | 15 | 14 | 49 |
| 224 | 8 | 23 | 11 | 32 | 12 | 52 | 14 | 14 | 15 | 52 | 17 | 11 |
| 236 | 11 | 26 | 14 | 09 | 15 | 26 | 16 | 45 | 18 | 07 | 19 | 32 |
| 248 | 14 | 28 | 16 | 47 | 18 | 00 | 19 | 15 | 20 | 33 | 21 | 54 |
| 300 | 17 | 28 | 19 | 26 | 20 | 35 | 21 | 46 | 22 | 59 | 24 | 16 |
| 312 | 20 | 26 | 22 | 05 | 23 | 10 | 24 | 17 | 25 | 25 | 26 | 37 |
| 324 | 23 | 23 | 24 | 44 | 25 | 45 | 26 | 48 | 27 | 52 | 28 | 59 |
| 336 | 26 | 19 | 27 | 24 | 28 | 21 | 29 | 19 |  | 19 |  | P21 |
| 348 | 29 | 13 |  | 05 |  |  |  |  | 2 | 46 | 3 | 44 |
| 400 |  | 05 | 2 | 46 | 3 | 34 | 4 | 33 | 5 | 14 | 6 | 08 |
| 412 | 4 | 57 | 5 | 58 | 6 | 12 | 6 | 56 | 7 | 42 | 8 | 30 |
| 424 | 7 | 47 | 8 | 10 | 8 | 49 | 9 | 29 | 10 | 10 | 10 | 52 |
| 436 | 10 | 36 | 10 | 53 | 11 | 27 | 12 | 02 | 12 | 38 | 13 | 15 |
| 448 | 13 | 24 | 13 | 36 | 14 | 05 | 14 | 35 | 15 | 06 | 15 | 38 |
| 500 | 16 | 11 | 16 | 19 | 16 | 44 | 17 | 09 | 17 | 35 | 18 | 01 |
| 512 | 18 | 58 | 19 | 03 | 19 | 23 | 19 | 43 | 20 | 04 | 20 | 25 |
| 524 | 21 | 44 | 21 | 47 | 22 | 02 | 22 | 17 | 22 | 33 | 22 | 49 |
| 536 | 24 | 30 | 24 | 31 | 24 | 41 | 24 | 51 | 25 | 02 | 25 | 12 |
| 548 | 27 | 15 | 27 | 16 | 27 | 21 | 27 | 26 | 27 | 31 | 27 | 36 |
| 600 |  | 00 |  | 00 |  |  |  |  |  |  |  | 00 |
| 612 | 2 | 44 | 2 | 45 | 2 | 39 | 2 | 34 | 2 | 29 | 2 | 24 |
| 624 | 5 | 29 | 5 | 30 | 5 | 19 | 5 | 09 | 4 | 58 | 4 | 48 |
| 636 | 8 | 16 | 8 | 13 | 7 | 58 | 7 | 43 | 7 | 27 | 7 | 11 |
| 648 | 11 | 02 | 10 | 57 | 10 | 37 | 10 | 17 | 9 | 56 | 9 | 35 |
| 700 | 13 | 49 | 13 | 41 | 13 | 16 | 12 | 51 | 12 | 25 | 11 | 59 |
| 712 | 16 | 36 | 16 | 24 | 15 | 55 | 15 | 25 | 14 | 64 | 14 | 22 |
| 724 | 19 | 24 | 19 | 07 | 18 | 33 | 17 | 58 | 17 | 22 | 16 | 45 |
| 736 | 22 | 13 | 21 | 50 | 21 | 11 | 20 | 31 | 19 | 51 | 19 | 08 |
| 748 | 25 | 03 | 24 | 32 | 23 | 48 | 23 | 04 | 22 | 18 | 21 | 31 |

## table of ascendants

| S.T. | M.C. |  | $24^{\circ}$ |  | $28^{\circ}$ |  | $32^{\circ}$ |  | $36^{\circ}$ |  | $40^{\circ}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | - |  |  |  | - |  | - |  |  |  |  |  |
| 800 | 27 | 55 | 27 | 14 | 26 | 26 | 25 | 37 | 24 | 46 | 23 | 58 |
|  |  |  | 29 | 55 | 29 | 02 | 28 | 09 | 27 | 14 | 26 | 16 |
| 824 | 3 | 41 |  | , 36 |  | ,39 |  | 41 | 29 | 41 | 28 | 39 |
| 836 | 6 | 37 | 5 | 16 | 4 | 15 | 3 | 12 |  |  |  | 1201 |
| 848 | 9 | 34 | 7 | 55 | 6 | 50 | 5 | 43 | 4 | 35 |  | 23 |
| 900 | 12 | 32 | 10 | 34 | 9 | 25 | 8 | 14 | 7 | 01 | 5 | 44 |
| 912 | 15 | 32 | 13 | 13 | 12 | 00 | 10 | 45 | 9 | 27 | 8 | 06 |
| 924 | 18 | 34 | 15 | 51 | 14 | 34 | 13 | 15 | 11 | 53 | 10 | 28 |
| 936 | 21 | 37 | 18 | 28 | 17 | 08 | 15 | 46 | 14 | 20 | 12 | 49 |
| 948 | 24 | 42 | 21 | 06 | 19 | 42 | 18 | 16 | 16 | 45 | 15 | 11 |
| 1000 | 27 | 49 | 23 | 43 | 22 | 16 | 20 | 46 | 19 | 11 | 17 | 32 |
| 1012 | 07. |  | 26 | 20 | 24 | 49 | 23 | 16 | 21 | 38 | 19 | 54 |
| 1024 | 4 | 07 | 28 | 56 | 27 | 23 | 25 | 46 | 24 | 04 | 22 | 16 |
| 1036 | 7 | 18 |  | 33 | 29 | 56 | 28 | 16 | 26 | 30 | 24 | 38 |
| 1048 | 10 | 30 | 4 | 09 |  | 30 |  |  | 28 | 57 | 27 | 01 |
| 1100 | 13 | 43 | 6 | 46 | 5 | 04 | 3 | 17 |  | 24 | 29 | 24 |
| 1112 | 16 | 57 | 9 | 23 | 7 | 39 | 5 | 19 | 3 | 52 |  | ${ }^{*} 48$ |
| 1124 | 20 | 21 | 12 | 01 | 10 | 14 | 8 | 21 | 6 | 21 | 4 | 12 |
| 1136 | 23 | 28 | 14 | 39 | 12 | 49 | 10 | 34 | 8 | 50 | 6 | 38 |
| 1148 | 26 | 44 | 17 | 18 | 15 | 26 | 13 | 27 | 11 | 21 | 9 | 05 |
| 1200 | $0 \Omega$ |  | 19 | 57 | $18 \times$ | 03 | $16 \times$ | 02 | 13 | 53 | 11 | 732 |
| 1212 | 3 | 16 | 22 | 38 | 20 | 42 | 18 | 39 | 16 | 26 | 14 | 02 |
| 1224 | 6 | 32 | 25 | 20 | 23 | 22 | 21 | 16 | 19 | 01 | 16 | 33 |
| 1236 | 9 | 48 | 28 | 03 | 26 | 04 | 23 | 56 | 21 | 37 | 19 | 06 |
| 1248 | 13 | 03 |  | 48 | 28 | 47 | 26 | 37 | 24 | 16 | 21 | 41 |
| 1300 | 16 | 17 | 3 | 34 |  | 32 | 29 | 20 | 26 | 57 | 24 | 18 |
| 1312 | 19 | 30 | 6 | 23 | 4 | 20 |  | 06 | 29 | 40 | 26 | 58 |
| 1324 | 22 | 42 | 9 | 14 | 7 | 10 | 4 | 55 |  |  | 29 | 41 |
| 1336 | 25 | 53 | 12 | 07 | 10 | 02 | 7 | 46 | 5 | 16 |  |  |
| 1348 | 29 | 03 | 15 | 02 | 12 | 57 | 10 | 40 | 8 | 09 | 5 | 18 |
| 1400 | $2 \pi$ |  | 18 | 01 | 15 | 56 | 13 | 38 | 11 | 05 | 8 | 12 |
|  | 5 | 18 | 21 | 02 | 18 | 58 | 16 | 40 | 14 | 06 | 11 | 11 |
| 1424 | 8 | 23 | 24 | 07 | 22 | 03 | 19 | 46 | 17 | 11 | 14 | 15 |
| 1436 | 11 | 26 | 27 | 15 | 25 | 13 | 22 | 56 | 20 | 21 | 17 | 24 |
| 1448 | 14 | 28 |  | $\approx 27$ | 28 | 26 | 26 | 11 | 23 | 37 | 20 | 39 |
| 1500 | 17 | 28 | 3 | 42 |  | ¢4 | 29 | 30 | 26 | 58 | 24 | 00 |
| 1512 | 20 | 26 | 7 | 01 | 5 | 06 |  | 55 |  |  | 27 | 29 |
| 1524 | 23 | 23 | 10 | 25 | 8 | 33 | 6 | 26 | 3 | 58 |  |  |
| 1536 | 26 | 19 | 13 | 52 | 12 | 05 | 10 | 01 | 7 | 38 | 4 | 48 |
| 1548 | 29 | 13 | 17 | 24 | 15 | 41 | 13 | 43 | 11 | 25 | 8 | 39 |

table of ascendants

| S.T. | M.C. |  | $24^{\circ}$ |  | $28^{\circ}$ |  | $32^{\circ}$ |  | $36^{\circ}$ |  | $40^{\circ}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| h m | - |  | - |  | - | - | - | - | - | - | - | - |
| 1600 |  | 05 | 21 | 00 | 19 | 23 | 17 | 31 | 15 | 19 | 12 | 40 |
| 1612 | 4 | 57 | 24 | 40 | 23 | 09 | 21 | 24 | 19 | 20 | 16 | 49 |
| 1624 | 7 | 47 | 28 | 24 | 27 | 01 | 25 | 24 | 23 | 28 | 21 | 07 |
|  | 10 | 36 |  |  |  | 57 | 29 | 29 | 27 | 44 | 25 | 34 |
| 1648 | 13 | 24 | 6 | 03 | 4 | 57 |  |  |  | 06 |  | 10 |
| 1700 | 16 | 11 | 9 | 57 | 9 | 01 | 7 | 54 | 6 | 34 | 4 | 54 |
| 1712 | 18 | 58 | 13 | 54 | 13 | 08 | 12 | 14 | 11 | 08 | 9 | 45 |
| 1724 | 21 | 44 | 17 | 53 | 17 | 19 | 16 | 37 | 15 | 47 | 14 | 43 |
| 1736 | 24 | 30 | 21 | 55 | 21 | 31 | 21 | 03 | 20 | 29 | 19 | 46 |
| 1748 | 27 | 15 | 25 | 57 | 25 | 45 | 25 | 31 | 25 | 14 | 24 | 52 |
| 1800 |  | 800 |  | 00 |  | O0 |  | +00 |  | 00 |  | 00 |
| 1812 | 2 | 45 | 4 | 03 | 4 | 15 | 4 | 29 | 4 | 46 | 5 | 08 |
| 1824 | 5 | 30 | 8 | 05 | 8 | 29 | 8 | 57 | 9 | 31 | 10 | 14 |
| 1836 | 8 | 16 | 12 | 07 | 12 | 42 | 13 | 23 | 14 | 13 | 15 | 17 |
| 1848 | 11 | 02 | 16 | 06 | 16 | 52 | 17 | 46 | 18 | 52 | 20 | 15 |
| 1900 | 13 | 49 | 20 | 03 | 20 | 59 | 22 | 06 | 23 | 26 | 25 | 06 |
| 1912 | 16 | 36 | 23 | 58 | 25 | 03 | 26 | 21 | 27 | 54 | 29 | 50 |
| 1924 | 19 | 24 | 27 | 49 | 29 | 03 | 08 | 31 | 28 | 16 | 48 | 26 |
| 1936 | 22 | 13 |  | 36 |  | 59 |  | 36 | 6 | 32 | 8 | 53 |
| 1948 | 25 | 03 | 5 | 20 | 6 | 51 | 8 | 36 | 10 | 40 | 13 | 11 |
| 2000 | 27 | 55 | 9 | 00 | 10 | 37 | 12 | 29 | 14 | 41 | 17 | 20 |
| 2012 |  | 47 | 12 | 36 | 14 | 19 | 16 | 17 | 18 | 35 | 21 | 21 |
| 2024 | 3 | 41 | 16 | 08 | 17 | 55 | 19 | 59 | 22 | 22 | 25 | 12 |
| 2036 | 6 | 36 | 19 | 35 | 21 | 27 | 23 | 34 | 26 | 02 | 28 | 56 |
| 2048 | 9 | 34 | 22 | 59 | 24 | 54 | 27 | 05 | 29 | 35 |  | 31 |
| 2100 | 12 | 32 | 26 | 18 | 28 | 16 |  |  |  | 02 | 6 | 00 |
| 2112 | 15 | 32 | 29 | 33 |  | 34 | 3 | 49 | 6 | 23 | 9 | 21 |
| 2124 | 18 | 34 |  | 45 | 4 | 47 | 7 | 04 | 9 | 39 | 12 | 36 |
| 2136 | 21 | 37 | 5 | 53 | 7 | 57 | 10 | 14 | 12 | 49 | 15 | 45 |
| 2148 | 24 | 42 | 8 | 58 | 11 | 02 | 13 | 20 | 15 | 54 | 18 | 49 |
| 2200 | 27 | 49 | 11 | 59 | 14 | 04 | 16 | 22 | 18 | 55 | 21 | 48 |
| 2212 |  | 57 | 14 | 58 | 17 | 03 | 19 | 20 | 21 | 52 | 24 | 42 |
|  | 4 | 07 | 17 | 57 | 19 | 58 | 22 | 14 | 24 | 44 | 27 | 32 |
| 2236 | 7 | 19 | 20 | 46 | 22 | 50 | 25 | 05 | 27 | 34 |  | 19 |
| 2248 | 10 | 30 | 23 | 37 | 25 | 40 | 27 | 54 |  | 20 | 3 | 02 |
| 2300 | 13 | 43 | 26 | 26 | 28 | 28 |  |  | 3 | 03 | 5 | 42 |
| 2312 | 16 | 57 | 29 | 12 | 1 1 | 13 | 3 | 23 | 5 | 44 | 8 | 19 |
| 2324 | 20 | 12 |  | 57 | 3 | 56 | 6 | 04 | 8 | 23 | 10 | 54 |
| 2336 | 23 | 38 | 4 | 40 | 6 | 38 | 8 | 44 | 10 | 59 | 13 | 27 |
| 2348 | 26 | 44 | 7 | 22 | 9 | 18 | 11 | 21 | 13 | 34 | 15 | 58 |

## table of Ascendants

| S.T. | M.C. |  | $44^{\circ}$ |  |  |  | $52^{\circ}$ |  | $56^{\circ}$ |  | $60^{\circ}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| h m | - |  | - |  | - |  | 0 |  | - |  | - |  |
| 000 |  | 00 | 21 |  | 23 | 50 | 26 |  |  |  |  | 34 |
| 012 | 3 | 16 | 23 | 24 | 26 | 08 | 29 | 10 | 2 | 34 | 6 | 26 |
| 024 | 6 | 32 | 25 | 46 | 28 | 24 |  |  | 4 | 35 | 8 | 17 |
| 036 | 9 | 48 | 28 | 07 |  | 39 | 3 | 28 | 6 | 36 | 10 | 05 |
| 048 | 13 | 03 |  |  | 2 | 56 | 5 | 35 | 8 | 35 | 11 | 58 |
| 100 | 16 | 17 | 2 | 46 | 5 | 07 | 7 | 42 | 10 | 35 | 13 | 48 |
|  | 19 | 30 | 5 | 04 |  | 20 | 9 | 49 | 12 | 34 | 15 | 38 |
| 124 | 22 | 42 | 7 | 22 | 9 | 32 | 11 | 55 | 14 | 32 | 17 | 28 |
| 136 | 25 | 53 | 9 | 40 | 11 | 44 | 14 | 00 | 16 | 31 | 19 | 18 |
| 148 | 29 | 03 | 11 | 57 | 23 | 56 | 16 | 06 | 18 | 29 | 21 | 08 |
| 200 |  | 11 | 14 | 14 | 16 | 07 | 18 | 11 | 20 | 27 | 22 | 58 |
| 212 | 5 | 18 | 16 | 30 | 18 | 18 | 20 | 16 | 22 | 25 | 24 | 48 |
| 224 | 8 | 23 | 18 | 47 | 20 | 29 | 22 | 21 | 24 | 23 | 26 | 38 |
| 236 | 11 | 26 | 21 | 03 | 22 | 40 | 24 | 26 | 26 | 21 | 28 | 28 |
| 248 | 14 | 28 | 23 | 20 | 24 | 51 | 26 | 30 | 28 | 19 |  | 18 |
| 300 | 17 | 28 | 25 | 36 | 27 | 02 | 28 | 35 |  |  | 2 | 08 |
| 312 | 20 | 26 | 27 | 53 | 29 | 14 |  | 40 | 2 | 15 | 3 | 58 |
| 324 | 23 | 23 |  | 10 |  | 25 | 2 | 45 | 4 | 13 | 5 | 50 |
| 336 | 26 | 19 | 2 | 27 | 3 | 36 | 4 | 50 |  | 11 | 7 | 40 |
| 348 | 29 | 13 | 4 | 44 | 5 | 47 | 6 | 50 | 8 | 10 | 9 | 31 |
| 400 |  | 05 | 7 | 01 | 7 | 59 | 9 | 01 | 10 | 08 | 11 | 23 |
| 412 | 4 | 57 | 9 | 18 | 10 | 11 | 11 | 07 | 12 | 07 | 13 | 14 |
| 424 | 7 | 47 | 11 | 36 | 12 | 22 | 13 | 12 | 14 | 06 | 15 | 05 |
| 436 | 10 | 36 | 13 | 53 | 14 | 34 | 15 | 18 | 16 | 05 | 16 | 57 |
| 448 | 13 | 24 | 16 | 11 | 16 | 46 | 17 | 24 | 18 | 04 | 18 | 48 |
| 500 | 16 | 11 | 18 | 29 | 18 | 58 | 19 | 30 | 20 | 03 | 20 | 40 |
| 512 | 18 | 58 | 20 | 47 | 21 | 11 | 21 | 26 | 22 | 03 | 22 | 32 |
| 524 | 21 | 44 | 23 | 05 | 23 | 23 | 23 | 42 | 24 | 02 | 24 | 24 |
| 536 | 24 | 30 | 25 | 23 | 25 | 35 | 25 | 48 | 26 | 01 | 26 | 16 |
| 548 | 27 | 15 | 27 | 42 | 27 | 48 | 27 | 54 | 28 | 01 | 28 | 08 |
| 600 |  | 00 |  | 00 |  | 00 |  | 00 |  |  |  |  |
| 612 | 2 | 44 | 2 | 18 | 2 | 12 | 2 | OB | 1 | 59 | 1 | 52 |
| 624 | 5 | 29 | 4 | 37 | 4 | 25 | 4 | 12 | 3 | 59 | 3 | 44 |
| 636 | 8 | 16 | 6 | 55 | 6 | 37 | 6 | 18 | 5 | 58 | 5 | 36 |
| 648 | 11 | 02 | 9 | 16 | 8 | 49 | 8 | 24 | 7 | 58 | 7 | 28 |
| 700 | 13 | 49 | 11 | 31 | 11 | 02 | 10 | 30 | 9 | 57 | 9 | 20 |
| 712 | 16 | 36 | 13 | 49 | 13 | 14 | 12 | 36 | 11 | 56 | 11 | 12 |
| 724 | 19 | 24 | 16 | 07 | 15 | 26 | 14 | 42 | 13 | 55 | 13 | 03 |
| 736 | 22 | 13 | 18 | 24 | 17 | 38 | 16 | 48 | 15 | 54 | 14 | 55 |
| 748 | 25 | 03 | 20 | 42 | 19 | 50 | 18 | 56 | 17 | 53 | 16 | 46 |

table of ascendants

| $\begin{aligned} & \text { S.T. } \\ & \text { h m } \end{aligned}$ | M.C. |  | $44^{\circ}$ |  | $48^{\circ}$ |  | $52^{\circ}$ |  | $56^{\circ}$ |  | $60^{\circ}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 800 | 27 | 55 | 22 | 59 | 22 | 01 | 20 | 59 | 19 | 51 | 18 | 37 |
| 812 |  | P 47 | 25 | 16 | 24 | 13 | 23 | 04 | 21 | 50 | 20 | 29 |
| 824 | 3 | 41 | 27 | 33 | 26 | 24 | 25 | 10 | 23 | 49 | 22 | 20 |
| 836 | 6 | 37 | 29 | 50 | 28 | 35 | 27 | 15 | 25 | 47 | 24 | 10 |
| 848 | 9 | 34 |  |  |  |  | 29 | 20 | 27 | 45 | 26 | 01 |
| 900 | 12 | 32 | 4 | 24 | 2 | 53 |  | , 25 | 29 | 43 | 27 | 52 |
| 912 | 15 | 32 | 6 | 40 | 5 | 09 | 3 | 30 |  | 41 | 29 | 42 |
| 924 | 18 | 34 | 8 | 57 | 7 | 20 | 5 | 34 | 3 | 39 |  | R32 |
| 936 | 21 | 37 | 11 | 13 | 9 | 31 | 7 | 39 | 5 | 36 | 3 | 22 |
| 948 | 24 | 42 | 13 | 30 | 11 | 42 | 9 | 44 | 7 | 35 | 6 | 12 |
| 1000 | 27 | 49 | 15 | 47 | 13 | 53 | 11 | 49 | 9 | 33 | 7 | 02 |
| 1012 |  | 757 | 18 | 03 | 16 | 04 | 13 | 54 | 11 | 31 | 8 | 52 |
| 1024 | 4 | 07 | 20 | 20 | 18 | 16 | 16 | 00 | 13 | 29 | 10 | 42 |
| 1036 | 7 | 18 | 22 | 38 | 20 | 28 | 18 | 05 | 15 | 28 | 12 | 32 |
| 1048 | 10 | 30 | 24 | 56 | 22 | 40 | 20 | 11 | 17 | 26 | 14 | 22 |
| 1100 | 13 | 43 | 27 | 14 | 24 | 53 | 22 | 18 | 19 | 25 | 16 | 12 |
| 1112 | 16 | 57 | 29 | 33 | 27 | 07 | 24 | 25 | 21 | 25 | 18 | 02 |
| 1124 | 20 | 21 |  | 53 | 29 | 21 | 26 | 32 | 23 | 24 | 19 | 52 |
| 1136 | 23 | 28 | 4 | 14 |  | 36 | 28 | 41 | 25 | 25 | 21 | 43 |
| 1148 | 26 | 44 | 6 | 36 | 3 | 52 |  |  | 27 | 26 | 23 | 34 |
| 1200 |  | 200 |  | 58 |  | 10 |  | 01 | 297 | ,28 | 257 | 26 |
| 1212 | 3 | 16 | 11 | 24 | 8 | 29 | 5 | 13 | 1 | 31 | 27 | 18 |
| 1224 | 6 | 32 | 13 | 50 | 10 | 49 | 7 | 26 | 3 | 35 | 29 | 11 |
| 1236 | 9 | 48 | 16 | 18 | 13 | 12 | 9 | 41 | 5 | 41 | 1 | 05 |
| 1248 | 13 | 03 | 18 | 49 | 15 | 36 | 11 | 58 | 7 | 48 | 3 | 00 |
| 1300 | 16 | 17 | 21 | 22 | 18 | 03 | 14 | 17 | 9 | 58 | 4 | 57 |
| 1312 | 19 | 30 | 23 | 57 | 20 | 33 | 16 | 39 | 12 | 09 | 6 | 54 |
| 1324 | 22 | 42 | 26 | 36 | 23 | 06 | 19 | 0. | 14 | 23 | 8 | 54 |
| 1336 | 25 | 53 | 29 | 19 | 25 | 42 | 21 | 32 | 16 | 40 | 10 | 55 |
| 1348 | 29 | 03 |  | 05 | 28 | 22 | 24 | 04 | 19 | 00 | 12 | 59 |
| 14 00 |  | . 11 | 4 | 55 |  | 07 | 26 | 40 | 21 | 24 | 15 | 06 |
| 1412 | 5 | 18 | 7 | 50 | 3 | 57 | 29 | 21 | 23 | 52 | 17 | 17 |
| 1424 | 8 | 23 | 10 | 51 | 6 | 52 |  | 08 | 26 | 28 | 19 | 31 |
| 1436 | 11 | 26 | 13 | 58 | 9 | 54 | 5 | 01 | 29 | 05 | 21 | 49 |
| 1448 | 14 | 28 | 17 | 11 | 13 | 02 | 8 | 01 |  | 51 | 24 | 13 |
| 1500 | 17 | 28 | 20 | 31 | 16 | 18 | 11 | 10 | 4 | 46 | 26 | 44 |
| 1512 | 20 | 26 | 23 | 59 | 19 | 44 | 14 | 28 | 7 | 50 | 29 | 23 |
| 1524 | 23 | 23 | 27 | 35 | 23 | 19 | 17 | 57 | 11 | 05 |  | 11 |
| 1536 | 26 | 19 | 1 | 21 | 27 | 04 | 21 | 38 | 14 | 32 | 5 | 10 |
| 1548 | 29 | 13 | 5 | 16 | 1 | 02 | 25 | 32 | 18 | 15 | 8 | 24 |

## table of ascendants

| S.T. | M.C. |  | $44^{\circ}$ |  | $48^{\circ}$ |  | $52^{\circ}$ |  | $56^{\circ}$ |  | $60^{\circ}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 m | - |  | - | , | - | , | - | * | - | - | - | - |
|  |  | 05 | 9 | 23 | 5 | 12 | 29 | 43 | 22 | 16 | 11 | 55 |
| 1612 | 4 | 57 | 13 | 40 | 9 | 36 |  |  | 26 | 38 | 15 | 47 |
| 1624 | 7 | 47 | 18 | 08 | 14 | 15 | 8 | 58 |  |  | 20 | 08 |
| 1636 | 10 | 36 | 22 | 49 | 19 | 10 | 14 | 06 | 6 | 39 | 25 | 03 |
| 1648 | 13 | 24 | 27 | 41 | 24 | 21 | 19 | 37 | 12 | 27 |  |  |
| 1700 | 16 | 11 | 2 | . 44 | 29 | 47 | 25 | 32 | 18 | 52 | 7 | 18 |
| 1712 | 18 | 58 | 7 | 57 | 53 | 28 |  | 50 | 25 | 57 | 15 | 04 |
| 1724 | 21 | 44 | 13 | 19 | 11 | 23 | 8 | 29 | 3 | 41 | 24 | 13 |
|  | 24 | 30 | 18 | 48 | 17 | 29 | 15 | 28 | 12 | 03 |  | 55 |
| 1748 | 27 | 15 | 24 | 23 | 23 | 42 | 22 | 40 | 20 | 53 | 17 | 01 |
| 1800 | 0 \% 00 |  | 0 T00 |  | 0700 |  | Or 00 |  | $0 \gamma 00$ |  | 0700 |  |
|  | 2 | 45 | 5 | 37 | 6 | 18 | 7 | 20 | 9 | 07 | 12 | 59 |
| 1824 | 5 | 30 | 11 | 12 | 12 | 31 | 14 | 32 | 17 | 57 | 25 | 05 |
| 1836 | 8 | 16 | 16 | 41 | 18 | 37 | 21 | 31 | 26 | 19 | 58 | 47 |
| 1848 | 11 | 02 | 22 | 03 | 24 | 32 | 28 | 10 | 4 | 03 | 14 | 56 |
| 1900 | 13 | 49 | 27 | 16 | 08 | 13 | 40 | 28 | 11 | 08 | 22 | 42 |
| 1912 | 16 | 36 |  | 8. 19 | 5 | 39 | 10 | 23 | 17 | 33 | 29 | 18 |
| 1924 | 19 | 24 | 7 | 11 | 10 | 50 | 15 | 54 | 23 | 21 |  | 57 |
| 1936 | 22 | 13 | 11 | 52 | 15 | 45 | 21 | 02 | 28 | 36 | 9 | 52 |
| 1948 | 25 | 03 | 16 | 20 | 20 | 24 | 25 | 49 | 3 I | 22 | 14 | 13 |
| 2000 | 27 | 55 | 20 | 37 | 24 | 48 | 0117 |  | 7 | 44 | 18 | 05 |
| 2012 | $0 \approx 47$ |  | 24 | 44 | 28 | 58 | 4 | 28 | 11 | 45 | 21 | 36 |
| 2024 | 3 | 41 | 28 | 39 | 2 II 56 |  | $28 \quad 22$ |  | 15 | 28 | 24 | 50 |
| 2036 | 6 | 36 | 2파 25 |  | 641 |  | 12 | 07 | 18 | 55 | 27 | 49 |
| 2048 | 9 | 34 | 6 | 01 | $10 \quad 16$ |  | $15 \quad 33$ |  | 22 | 10 |  |  |
| 2100 | 12 | 32 | 9 | 29 | $13 \quad 41$ |  | 1850 |  | 25 | 14 | 3 | 16 |
| 2112 | 15 | 32 | 12 | 49 | $16 \quad 58$ |  | $21 \quad 59$ |  | 28 | 09 | 5 | 47 |
| 2124 | 18 | 34 | 16 | 02 | 20 06 |  | $24 \quad 59$ |  | 0 ¢ 55 |  | - | 11 |
| 2136 | 21 | 37 | 19 | 09 | 23 | 08 | $27 \quad 52$ |  | 3 | 35 | 10 | 29 |
| 2148 | 24 | 42 | 22 | 10 | 2603 |  | 0e 39 |  | 6 | 08 | 12 | 44 |
| 2200 | 27 | 49 | 25 | 05 |  | 2853 | 20 |  | 8 | 36 | 14 | 54 |
| 2212 | $0 \times 57$ |  | 27 | 55 |  | 38 | 56 |  | 11 | 00 | 17 | 01 |
| 2224 | 4 | 07 | $00^{1}$ |  | 418 |  | 8 | 28 | 13 | 20 | 19 | 05 |
| 2236 | 7 | 19 | 3 | 24 |  | 54 | 1056 |  | 15 | 37 | 21 | 06 |
| 2248 | 10 | 30 | 6 | 03 | 27 |  | 1321 |  | 17 | 51 | 23 | 06 |
| 2300 | 13 | 43 | 8 | 38 | 1157 |  | 1543 |  | 20 | 02 | 25 | 04 |
| 2312 | 16 | 57 | 11 | 11 | $14 \quad 24$ |  | 1802 |  | 22 | 12 | 27 | 00 |
| 2324 | 20 | 12 | 13 | 42 | 1648 |  | $20 \quad 19$ |  | 24 | 19 | 28 | 55 |
| 2336 | 23 | 38 | 16 | 10 | 1911 |  | 2234 |  | 26 | 25 |  |  |
| 2348 | 26 | 44 | 18 | 36 | 2131 |  | $24 \quad 47$ |  | 28 | 29 | 2 | 42 |

TABLE 5: ASCENDANT ADJUSTMENT

## 5A. TABLES FOR ADJUSTING ASCENDANT TO EXACT L.S.T.

Interval
Between
LST \& ST Interval Between Nearest and Next Nearest Ascendant
$\left.\begin{array}{cccccc}\text { Mins. } & 1^{\circ} 30^{\prime} & 1^{\circ} 45^{\prime} & 2^{\circ} 00^{\prime} & 2^{\circ} 15^{\prime} & 2^{\circ} 30^{\prime} \\ \hline & 0, & \circ, & 0 & 0 & 0\end{array}\right)$,

| 1 | 7 | 9 | 10 | 11 | 12 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | 15 | 17 | 20 | 22 | 25 |
| 3 | 23 | 26 | 30 | 33 | 37 |
| 4 | 30 | 35 | 40 | 45 | 50 |
| 5 | 38 | 44 | 50 | 56 | 102 |
| 6 | 45 | 53 | 100 | 107 | 115 |
| 7 | 52 | 101 | 110 | 118 | 127 |
| 8 | 100 | 110 | 120 | 130 | 140 |
| 9 | 108 | 119 | 130 | 141 | 153 |
| 10 | 115 | 128 | 140 | 152 | 205 |
| 11 | 122 | 136 | 150 | 204 | 218 |
| 12 | 130 | 145 | 200 | 215 | 230 |

Sec.

| 15 | 2 | 2 | 2 | 3 | 3 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 30 | 4 | 4 | 5 | 5 | 6 |
| 45 | 6 | 6 | 7 | 8 | 9 |
| 60 | 7 | 9 | 10 | 11 | 12 |


| Interval <br> Between LST \& ST | Interval Between Nearest and Next Nearest Ascendant |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Mins. | $2^{\circ} 45^{\prime}$ | $3^{\circ} 00^{\prime}$ | $3^{\circ} 15^{\prime}$ | $3^{\circ} 30^{\prime}$ | $3^{\circ} 45^{\prime}$ |
|  | - , | - | - , | - , | - |
| 1 | 13 | 15 | 16 | 17 | 19 |
| 2 | 27 | 30 | 32 | 35 | 37 |
| 3 | 41 | 45 | 49 | 53 | 57 |
| 4 | 55 | 100 | 105 | 110 | 115 |
| 5 | 108 | 115 | 121 | 128 | 133 |
| 6 | 123 | 130 | 137 | 145 | 153 |
| 7 | 136 | 145 | 154 | 203 | 211 |
| 8 | 150 | 200 | 210 | 220 | 230 |
| 9 | 204 | 215 | 226 | 238 | 249 |
| 10 | 217 | 230 | 242 | 255 | 307 |
| 11 | 231 | 245 | 259 | 313 | 326 |
| 12 | 245 | 300 | 315 | 330 | 345 |
| Sec. |  |  |  |  |  |
| 15 | 3 | 4 | 4 | 4 | 5 |
| 30 | 7 | 8 | 8 | 9 | 9 |
| 45 | 10 | 12 | 12 | 13 | 14 |
| 60 | 13 | 15 | 16 | 17 | 19 |

Interval
Between
LST \& ST Interval Between Nearest and Next Nearest Ascendant


| 1 | 20 | 21 | 22 | 24 | 25 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | 40 | 42 | 45 | 47 | 50 |
| 3 | 100 | 103 | 107 | 111 | 115 |
| 4 | 120 | 125 | 130 | 135 | 140 |
| 5 | 140 | 146 | 152 | 158 | 205 |
| 6 | 200 | 207 | 215 | 222 | 230 |
| 7 | 220 | 228 | 237 | 246 | 255 |
| 8 | 240 | 250 | 300 | 310 | 320 |
| 9 | 300 | 311 | 323 | 334 | 345 |
| 10 | 320 | 332 | 345 | 357 | 410 |
| 11 | 340 | 354 | 408 | 422 | 435 |
| 12 | 400 | 415 | 430 | 445 | 500 |

Sec.

| 15 | 5 | 5 | 5 | 6 | 6 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 30 | 10 | 10 | 11 | 12 | 13 |
| 45 | 15 | 16 | 17 | 18 | 19 |
| 60 | 20 | 21 | 22 | 24 | 25 |


| Interval <br> Between <br> LST \& ST | Interval Between Nearest and |  |  | Next Nearest Ascendant |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Mins. | $5^{\circ} 15^{\prime}$ | $5^{\circ} 30^{\prime}$ | $5^{\circ} 45^{\prime}$ | $6^{\circ} 00{ }^{\prime}$ | $6^{\circ} 15^{\prime}$ |
|  | - | - | - | - | $\bigcirc$ |
| 1 | 26 | 27 | 28 | 30 | 31 |
| 2 | 52 | 55 | 57 | 100 | 102 |
| 3 | 118 | 123 | 126 | 130 | 134 |
| 4 | 145 | 150 | 155 | 200 | 205 |
| 5 | 211 | 218 | 214 | 230 | 235 |
| 6 | 237 | 245 | 252 | 300 | 307 |
| 7 | 303 | 312 | 321 | 330 | 339 |
| 8 | 330 | 340 | 350 | 400 | 410 |
| 9 | 356 | 408 | 419 | 430 | 441 |
| 10 | 423 | 435 | 447 | 500 | 512 |
| 11 | 449 | 503 | 517 | 530 | 544 |
| 12 | 515 | 530 | 545 | 600 | 615 |
| Sec. |  |  |  |  |  |
| 15 | 6 | 7 | 7 | 7 | 7 |
| 30 | 13 | 14 | 14 | 15 | 15 |
| 45 | 20 | 21 | 22 | 23 | 24 |
| 60 | 26 | 27 | 28 | 30 | 31 |


| Interval Between |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Mins. | $6^{\circ} 30^{\prime}$ | $6^{\circ} 45^{\prime}$ | $7^{\circ} 00^{\prime}$ | $7^{\circ} 15^{\prime}$ | $7^{\circ} 30^{\prime}$ |
|  | - , | - , | - | - , | - , |
| 1 | 32 | 33 | 35 | 36 | 37 |
| 2 | 105 | 107 | 110 |  | 115 |
| 3 | 137 | 141 | 145 | 149 | 153 |
| 4 | 210 | 215 | 220 | 225 | 230 |
| 5 | 241 | 248 | 255 | 302 | 308 |
| 6 | 315 | 322 | 330 | 337 | 345 |
| 7 | 347 | 356 | 405 | 413 | 424 |
| 8 | 420 | 430 | 440 | 450 | 500 |
| 9 | 452 | 503 | 515 | 527 | 538 |
| 10 | 525 | 537 | 550 | 603 | 615 |
| 11 | 558 | 613 | 625 | 637 | 653 |
| 12 | 630 | 645 | 700 | 715 | 730 |


| Sec. |  |  |  |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 15 | 8 | 8 | 8 | 9 | 9 |
| 30 | 16 | 16 | 17 | 18 | 18 |
| 45 | 24 | 25 | 26 | 27 | 28 |
| 60 | 32 | 33 | 35 | 36 | 37 |



## 5B. TABLES FOR ADJUSTING ASCENDANT TO EXACT

 LATITUDEInterval
Between
Nearest Lat.
\& Exact Lat. Interval Between Nearest and Next Nearest Ascendant


| 1 | 15 | 19 |  | 23 |  | 26 |  |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 20 | 30 | 37 |  | 45 |  | 53 | 100 |
| 3 | 45 | 46 | 107 | 119 | 130 |  |  |
| 3 | 100 | 1 | 15 | 130 | 1 | 45 | 2 |

Mins.

| 10 | 2 | 3 | 4 | 5 | 5 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 20 | 5 | 6 | 7 | 9 | 10 |
| 30 | 8 | 10 | 11 | 13 | 15 |
| 40 | 10 | 13 | 15 | 18 | 20 |
| 50 | 12 | 16 | 19 | 21 | 25 |
| 60 | 15 | 19 | 23 | 26 | 30 |

Interyal
Between
Nearest Lat
\& Exact Lat. Interval Between Nearest and Next Nearest Ascendant

| Degrees | $2^{\circ} 15^{\prime}$ | $2^{\circ} 30^{\prime}$ | $2^{\circ} 45^{\prime}$ | $3^{\circ} 00^{\prime}$ | $3^{\circ} 15^{\prime}$ |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\circ$ | $\circ$ | $\circ$ | 0 | $\circ$ | $\circ$ |
|  | 1 | $\circ$ | $\prime$ |  |  |  |


| 1 |  | 33 |  | 37 |  | 41 |  | 45 |  | 49 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 2 | 1 | 1 | 15 | 1 | 13 | 1 | 30 | 1 | 37 |  |
| 3 | 1 | 38 | 1 | 53 | 1 | 04 | 2 | 15 | 2 | 27 |
| 4 | 2 | 15 | 2 | 30 | 2 | 45 | 3 | 00 | 3 | 15 |

Mins.

| 10 | 6 | 6 | 7 | 7 | 8 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 20 | 11 | 12 | 13 | 15 | 16 |
| 30 | 17 | 19 | 20 | 23 | 24 |
| 40 | 22 | 25 | 27 | 30 | 32 |
| 50 | 28 | 31 | 34 | 37 | 40 |
| 60 | 33 | 37 | 41 | 45 | 49 |

Interval
Between
Nearest Lat.
\& Exact Lat. Interval Between Nearest and Next Nearest Ascendant

| Degrees | $3^{\circ} 30^{\prime}$ | $3^{\circ} 45^{\prime}$ | $4^{\circ} 00^{\prime}$ | $4^{\circ} 15^{\circ}$ | $4^{\circ} 30^{\prime}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0 | 0 | , | 0 | , | $\circ$ | 0 |


| 1 |  | 53 | 56 | 100 | 1 | 03 | 1 | 07 |  |
| :--- | ---: | ---: | ---: | ---: | :--- | :--- | :--- | :--- | :--- |
| 2 | 145 | 152 | 200 | 207 | 2 | 15 |  |  |  |
| 3 | 238 | 249 | 300 | 3 | 11 | 3 | 22 |  |  |
| 4 | 3 | 30 | 3 | 45 | 400 | 4 | 15 | 4 | 30 |

Mins.

| 10 | 9 | 10 | 10 | 11 | 11 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 20 | 17 | 19 | 20 | 21 | 22 |
| 30 | 25 | 28 | 30 | 32 | 33 |
| 40 | 34 | 37 | 40 | 43 | 45 |
| 50 | 43 | 46 | 50 | 53 | 56 |
| 60 | 53 | 56 | 100 | 103 | 107 |

Interval
Between
Nearest Lat.
\& Exact Lat. Interval Between Nearest and Next Nearest Ascendant

| Degrees | $4^{\circ} 45^{\prime}$ | $5^{\circ} 00^{\prime}$ | $5^{\circ} 15^{\prime}$ | $5^{\circ} 30^{\prime}$ | $5^{\circ} 45^{\prime}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | - | $\bigcirc$ | - , | $\bigcirc$, | - , |


| 1 | 111 | 1 | 15 | 1 | 19 | 123 | 1 | 26 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 2 | 222 | 230 | 237 | 245 | 252 |  |  |  |
| 3 | 334 | 345 | 356 | 408 | 4 | 19 |  |  |
| 4 | 445 | 500 | 5 | 15 | 530 | 5 | 45 |  |

Mins.

| 10 | 11 | 12 | 13 | 14 | 14 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 20 | 23 | 25 | 27 | 28 | 29 |
| 30 | 35 | 37 | 39 | 41 | 43 |
| 40 | 47 | 50 | 52 | 55 | 57 |
| 50 | 59 | 102 | 104 | 109 | 111 |
| 60 | 111 | 115 | 119 | 123 | 126 |

## Interval

Between
Nearest Lat.
\& Exact Lat. Interval Between Nearest and Next Nearest Ascendant

| Degrees | $6^{\circ} 00^{\prime}$ | $6^{\circ} 15^{\prime}$ | $6^{\circ} 30^{\prime}$ | $6^{\circ} 45^{\prime}$ |
| :---: | :---: | :---: | :---: | :---: |
|  | - | - , | - | - |
| 1 | 130 | 134 | 138 | 142 |
| 2 | 300 | 307 | 315 | 323 |
| 3 | 430 | 441 | 452 | 503 |
| 4 | 600 | 615 | 630 | 645 |

Mins.

| 10 | 15 | 16 | 16 | 17 |
| :---: | :---: | :---: | :---: | :---: |
| 20 | 30 | 32 | 33 | 34 |
| 30 | 45 | 48 | 50 | 52 |
| 40 | 100 | 104 | 106 | 108 |
| 50 | 115 | 119 | 121 | 125 |
| 60 | 130 | 134 | 138 | 142 |

## Interval

Between
Nearest Lat.
\& Exact Lat. Interval Between Nearest and Next Nearest Ascendant

| Degrees | $7^{\circ} 00^{\prime}$ | $7^{\circ} 15^{\prime}$ | $7^{\circ} 30^{\prime}$ | $7^{\circ} 45^{\prime}$ |
| :---: | :---: | :---: | :---: | :---: |
|  | $\circ$ | 0 | 0 | 0 |

Mins.

| 10 | 17 | 18 | 18 | 19 |
| :---: | :---: | :---: | :---: | :---: |
| 20 | 35 | 36 | 37 | 38 |
| 30 | 53 | 54 | 55 | 56 |
| 40 | 110 | 107 | 115 | 116 |
| 50 | 128 | 130 | 132 | 137 |
| 60 | 145 | 149 | 153 | 157 |

## TABLE 6: PLANETARY ADJUSTMENT

## 6A. MOTIONS OF THE MOON

| Days | $20^{\circ} 00^{\prime}$ | $20^{\circ} 15^{\prime}$ | $20^{\circ} 30^{\prime}$ | $20^{\circ} 45^{\prime}$ | $21^{\circ} 00^{\prime}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\circ$ | $\circ$ | $\circ$ | $\circ$ | $\circ$ |
| 1 | 1000 | 1007 | 1015 | 1022 | ${ }^{\circ}$ |
| 2 | 2000 | 1015 | 2030 | 2045 | $20^{\prime} 00$ |

Hrs.

| 1 | 25 | 25 | 26 | 26 | 26 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | 50 | 51 | 51 | 52 | 52 |
| 3 | 115 | 116 | 117 | 118 | 119 |
| 4 | 140 | 141 | 142 | 144 | 145 |
| 5 | 205 | 206 | 208 | 210 | 211 |
| 6 | 230 | 232 | 234 | 235 | 237 |
| 7 | 255 | 257 | 259 | 301 | 304 |
| 8 | 320 | 322 | 325 | 327 | 330 |
| 9 | 345 | 348 | 351 | 353 | 356 |
| 10 | 410 | 413 | 416 | 419 | 422 |
| 11 | 435 | 438 | 442 | 445 | 449 |
| 12 | 500 | 503 | 507 | 511 | 5.15 |
| 13 | 525 | 529 | 533 | 537 | 541 |
| 14 | 550 | 554 | 559 | 603 | 607 |
| 15 | 615 | 619 | 624 | 629 | 634 |
| 16 | 640 | 645 | 650 | 655 | 700 |
| 17 | 705 | 710 | 716 | 721 | 726 |
| 18 | 730 | 735 | 741 | 747 | 752 |
| 19 | 755 | 801 | 807 | 812 | 818 |
| 20 | 820 | 826 | 832 | 838 | 845 |
| 21 | 845 | 851 | 858 | 904 | 911 |
| 22 | 910 | 916 | 924 | 930 | 937 |
| 23 | 935 | 942 | 949 | 956 | 1004 |
| 24 | 1000 | 1007 | 1015 | 1022 | 1030 |


| Mins. |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
| 10 | 4 | 4 | 4 | 4 | 4 |
| 20 | 8 | 8 | 9 | 9 | 9 |
| 30 | 12 | 12 | 13 | 13 | 13 |
| 40 | 17 | 17 | 17 | 17 | 17 |
| 50 | 21 | 21 | 21 | 22 | 22 |
| 60 | 25 | 25 | 26 | 26 | 26 |

## 6A. MOTIONS OF THE MOON

| Davs | $21^{\circ} 15^{\prime}$ | $21^{\circ} 30^{\prime}$ | $21^{\circ} 45^{\prime}$ | $22^{\circ} 00^{\prime}$ | $22^{\circ} 15^{\prime}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1037 | 1045 | 1052 | 1100 | 1107 |
| 2 | 2115 | 2130 | 2145 | 2200 | 22 |

Hrs.

| 1 | 27 | 27 | 27 | 27 | 28 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | 52 | 54 | 54 | 55 | 56 |
| 3 | 120 | 121 | 121 | 122 | 123 |
| 4 | 146 | 147 | 149 | 150 | 151 |
| 5 |  | 214 | 215 | 217 | 219 |
| 6 | 240 | 241 | 243 | 245 | 247 |
| 7 | 306 | 308 | 310 | 312 | 315 |
| 8 | 332 | 335 | 337 | 340 | 342 |
| 9 | 359 | 402 | 404 | 407 | 410 |
| 10 | 425 | 429 | 432 | 435 | 437 |
| 11 | 452 | 456 | 459 | 502 | 506 |
| 12 | 518 | 522 | 526 | 530 | 533 |
| 13 | 545 | 549 | 553 | 557 | 601 |
| 14 | 611 | 616 | 620 | 625 | 629 |
| 15 | 638 | 643 | 647 | 652 | 657 |
| 16 | 704 | 710 | 715 | 720 | 725 |
| 17 | 731 | 737 | 742 | 747 | 752 |
| 18 | 758 | 804 | 809 | 815 | 820 |
| 19 | 824 | 831 | 836 | 842 | 848 |
| 20 | 851 | 857 | 903 | 910 | 915 |
| 21 | 917 | 924 | 930 | 937 | 944 |
| 22 | 944 | 951 | 957 | 1005 | 1011 |
| 23 | 1010 | 1018 | 1025 | 1032 | 1039 |
| 24 | 1037 | 1045 | 1052 | 1100 | 1107 |

Mins.

| 10 | 4 | 4 | $\mathbf{5}$ | 5 | 5 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 20 | 9 | 9 | 9 | 9 | 9 |
| 30 | 13 | 14 | 14 | 14 | 14 |
| 40 | 18 | 18 | 18 | 18 | 17 |
| 50 | 23 | 23 | 23 | 23 | 22 |
| 60 | 27 | 27 | 27 | 27 | 28 |

## 6A. MOTIONS OF THE MOON

| Days | $22^{\circ} 30^{\prime}$ | $22^{\circ} 45^{\prime}$ | $23^{\circ} 00^{\prime}$ | $23^{\circ} 15^{\prime}$ | $23^{\circ} 30^{\prime}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | - | - , | - | - | $\bigcirc$ |
| 1 | 1115 | 1122 | 1130 | 1137 | 1145 |
| 2 | 2230 | 2245 | 2300 | 2315 | 2330 |

Hrs.

| 1 | 28 | 28 | 29 | 29 | 29 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | 56 | 57 | 57 | 58 | 59 |
| 3 | 124 | 125 | 126 | 127 | 128 |
| 4 | 152 | 154 | 155 | 156 | 157 |
| 5 | 221 | 222 | 224 | 225 | 227 |
| 6 | 249 | 250 | 252 | 254 | 256 |
| 7 | 316 | 318 | 321 | 323 | 325 |
| 8 | 345 | 347 | 350 | 352 | 355 |
| 9 | 413 | 416 | 419 | 421 | 424 |
| 10 | 441 | 444 | 447 | 450 | 454 |
| 11 | 509 | 513 | 516 | 519 | 523 |
| 12 | 537 | 541 | 545 | 548 | 552 |
| 13 | 606 | 609 | 614 | 617 | 622 |
| 14 | 634 | 638 | 642 | 647 | 651 |
| 15 | 702 | 706 | 711 | 716 | 721 |
| 16 | 730 | 735 | 740 | 745 | 750 |
| 17 | 758 | 803 | 809 | 814 | 819 |
| 18 | 826 | 831 | 837 | 843 | 849 |
| 19 | 854 | 859 | 906 | 912 | 918 |
| 20 | 922 | 928 | 935 | 941 | 947 |
| 21 | 951 | 957 | 1004 | 1010 | 1017 |
| 22 | 1019 | 1025 | 1032 | 1039 | 1046 |
| 23 | 1047 | 1054 | 1101 | 1108 | 1115 |
| 24 | 1115 | 1122 | 1130 | 1137 | 1145 |

Mins.

| 10 | 5 | 5 | 5 | 5 | 5 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 20 | 9 | 9 | 10 | 10 | 10 |
| 30 | 14 | 14 | 14 | 14 | 15 |
| 40 | 18 | 18 | 19 | 19 | 19 |
| 50 | 22 | 23 | 23 | 24 | 24 |
| 60 | 28 | 28 | 29 | 29 | 29 |

6A. MOTIONS OF THE MOON

| Days | $23^{\circ} 45^{\prime}$ | $24^{\circ} 00^{\prime}$ | $24^{\circ} 15^{\prime}$ | $24^{\circ} 30^{\prime}$ | $24^{\circ} 45^{\circ}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | - | - , | - | - | $\bigcirc$ |
| 1 | 1152 | 1200 | 1207 | 1215 | 1222 |
| 2 | 2345 | 2400 | 2415 | 2430 | 2445 |

Hrs.

| 1 | 30 | 30 | 30 | 31 | 31 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | 59 | 100 | 101 | 101 | 102 |
| 3 | 129 | 130 | 131 | 132 | 133 |
| 4 | 159 | 200 | 201 | 203 | 204 |
| 5 | 228 | 230 |  | 233 | 235 |
| 6 | 258 | 300 |  |  | 305 |
| 7 | 328 | 330 | 332 | 334 | 336 |
| 8 | 357 | 400 | 402 | 405 | 407 |
| 9 | 427 | 430 | 433 | 436 | 438 |
| 10 | 457 | 500 | 503 | 506 | 509 |
| 11 | 526 | 530 | 533 | 537 | 540 |
| 12 | 556 | 600 | 603 | 607 | 611 |
| 13 | 626 | 630 | 634 | 638 | 642 |
| 14 | 655 | 700 | 704 | 709 | 713 |
| 15 | 725 | 730 | 734 | 739 | 744 |
| 16 | 755 | 800 | 804 | 810 | 815 |
| 17 | 824 | 830 | 835 | 841 | 846 |
| 18 | 854 | 900 | 905 | 911 | 916 |
| 19 | 924 | 930 | 936 | 942 | 947 |
| 20 | 953 | 1000 | 1006 | 1012 | 1018 |
| 21 | 1023 | 1030 | 1036 | 1043 | 1049 |
| 22 | 1053 | 1100 | 1106 |  | 1120 |
| 23 | 1122 | 1130 | 1137 | 1144 | 1151 |
| 24 | 1152 | 1200 | 1207 | 1215 | 1122 |

Mins.

| 10 | 5 | 5 | 5 | 5 | 5 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 20 | 10 | 10 | 10 | 10 | 10 |
| 30 | 15 | 15 | 16 | 16 | 16 |
| 40 | 20 | 20 | 21 | 21 | 21 |
| 50 | 25 | 25 | 26 | 26 | 26 |
| 60 | 30 | 30 | 31 | 31 | 31 |

## 6A. MOTIONS OF THE MOON

| Days | $25^{\circ} 00^{\prime}$ | $25^{\circ} 15^{\prime}$ | $25^{\circ} 30^{\circ}$ | $25^{\circ} 45^{\prime}$ | $26^{\circ} 00^{\circ}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\circ$ | $\circ$ | $\circ$ | $\circ$ | $\circ$ |
|  | $\circ$ | $\circ$ |  |  |  |
| 1 | 1230 | 1237 | 1245 | 1252 | 1300 |
| 2 | 2500 | 25 | 15 | 2530 | 2545 |

Hrs.

| 1 | 31 | 32 | 32 | 32 | 32 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | 102 | 103 | 103 |  | 105 |
| 3 | 134 | 135 | 136 | 136 | 137 |
| 4 |  | 206 | 207 | 209 | 210 |
| 5 | 236 | 238 | 239 | 240 | 242 |
| 6 |  | 309 | 311 | 313 |  |
| 7 | 339 | 341 | 343 | 345 | 347 |
| 8 |  | 412 | 415 | 417 | 420 |
| 9 | 441 | 444 | 447 | 449 | 452 |
| 10 | 512 | 515 | 519 | 522 | 525 |
| 11 | 544 | 547 | 551 | 554 | 557 |
| 12 | 615 | 618 | 622 | 626 | 630 |
| 13 | 646 | 650 |  | 658 | 702 |
| 14 | 717 | 722 | 726 | 730 | 735 |
| 15 | 749 | 753 | 758 | 802 | 807 |
| 16 | 820 | 825 | 830 | 835 | 840 |
| 17 | 851 | 856 | 902 | 907 | 912 |
| 18 | 922 | 928 | 934 | 939 | 945 |
| 19 | 954 | 959 | 1006 | 1011 | 1017 |
| 20 | 1025 | 1031 | 1038 | 1043 | 1050 |
| 21 | 1056 | 1102 | 1109 | 1115 | 1122 |
| 22 | 1127 | 1134 | 1141 | 1148 | 1155 |
| 23 | 1159 | 1205 | 1213 | 1219 | 1227 |
| 24 | 1230 | 1237 | 1245 | 1252 | 1300 |

Mins.

| 10 | $\mathbf{5}$ | $\mathbf{5}$ | $\mathbf{5}$ | $\mathbf{5}$ | $\mathbf{5}$ |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 20 | 10 | 10 | 10 | 10 | 10 |
| 30 | 16 | 16 | 16 | 16 | 16 |
| 40 | 21 | 22 | 22 | 22 | 22 |
| 50 | 26 | 27 | 27 | 27 | 27 |
| 60 | 31 | 32 | 32 | 32 | 32 |

## 6A. MOTIONS OF THE MOON

| Days | $26^{\circ} 15^{\prime}$ | $26^{\circ} 30^{\circ}$ | $26^{\circ} 45^{\prime}$ | $27^{\circ} 00^{\prime}$ | $27^{\circ} 15^{\circ}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0 | $\circ$ | $\circ$ | 0 | $\circ$ | $\circ$ | $\circ$ |


| 1 | 13 | 07 | 13 | 15 | 13 | 22 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 2 | 26 | 15 | 26 | 30 | -2645 | 27 |
| 20 | 13 | 27 | 15 |  |  |  |


| Hrs. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 33 | 33 | 33 | 34 | 34 |
| 2 | 106 | 106 | 107 | 107 | 108 |
| 3 | 138 | 139 | 140 | 141 | 142 |
| 4 | 211 | 212 | 214 | 215 | 216 |
| 5 | 244 | 246 | 247 | 249 | 250 |
| 6 | 316 | 319 | 320 | 322 | 324 |
| 7 | 350 | 352 | 353 | 356 | 358 |
| 8 | 422 | 425 | 427 | 430 | 432 |
| 9 | 455 | 458 | 500 | 503 | 506 |
| 10 | 528 | 531 | 534 | 537 | 540 |
| 11 | 601 | 604 | 608 | 611 | 614 |
| 12 | 633 | 637 | 641 | 645 | 648 |
| 13 | 706 | 711 | 714 | 719 | 723 |
| 14 | 739 | 744 | 748 | 752 | 757 |
| 15 | 812 | 817 | 821 | 826 | 831 |
| 16 | 845 | 850 | 855 | 900 | 905 |
| 17 | 917 | 923 | 928 | 934 | 939 |
| 18 | 950 | 956 | 1001 | 1007 | 1012 |
| 19 | 1023 | 1029 | 1035 | 1041 | 1047 |
| 20 | 1056 | 1104 | 1108 | 1115 | 1121 |
| 21 | 1129 | 1136 | 1142 | 1149 | 1155 |
| 22 | 1201 | 1209 | 1215 | 1222 | 1228 |
| 23 | 1234 | 1242 | 1249 | 1256 | 1303 |
| 24 | 1307 | 1315 | 1322 | 1330 | 1337 |

Mins.

| 10 | 5 | 5 | 6 | 6 | 6 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 20 | 10 | 10 | 11 | 11 | 11 |
| 30 | 17 | 17 | 17 | 17 | 17 |
| 40 | 23 | 23 | 22 | 22 | 22 |
| 50 | 27 | 27 | 28 | 28 | 28 |
| 60 | 33 | 33 | 33 | 34 | 34 |


| Days | $27^{\circ} 30^{\prime \prime}$ | $27^{\circ} 45^{\prime}$ | $28^{\circ} 00^{\prime}$ | $28^{\circ} 15^{\prime}$ | $28^{\circ} 30^{\circ}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\circ$ | $\circ$ | $\circ$ | 0 | 0 | $\circ$ |


| 1 | 13 | 45 | 13 | 52 | 1400 | 14 | 07 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 2 | 27 | 30 | 2745 | 2800 | 28 | 15 | 28 |
| 30 |  |  |  |  |  |  |  |

Hrs.

| 1 | 34 | 35 | 35 | 35 | 36 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | 109 | 110 | 110 |  | 112 |
| 3 | 143 | 144 | 145 | 146 | 147 |
| 4 | 218 | 219 | 220 | 221 | 222 |
| 5 | 252 | 253 | 255 | 256 | 259 |
| 6 |  | 328 | 330 | 332 | 334 |
| 7 | 401 |  | 405 | 407 | 409 |
| 8 | 435 | 437 | 440 | 442 | 445 |
| 9 | 510 | 512 | 515 | 518 | 521 |
| 10 | 544 | 547 | 550 | 553 | 556 |
| 11 | 619 | 621 | 625 | 6.28 | 632 |
| 12 | 653 | 656 | 700 | $7 \cdot 03$ | 707 |
| 13 | 727 | 731 | 735 | 739 | 743 |
| 14 | 802 | 805 | 810 | 814 | 819 |
| 15 | 836 | 840 | 845 | 849 | 854 |
| 16 | 911 | 914 | 920 | 925 | 930 |
| 17 | 945 | 949 | Q 55 | 1000 | 1006 |
| 18 | 1019 | 1024 | 1030 | 1036 | 1041 |
| 19 | 1054 | 1059 | 1105 | 1111 | 1117 |
| 20 | 1128 | 1133 | 1140 | 1146 | 1152 |
| 21 | 1203 | !2 08 | 1215 | 1221 | 1228 |
| 22 | 1237 | 1243 | 1250 | 1256 | 1304 |
| 23 | 1312 | 1317 | 1325 | 1332 | 1339 |
| 24 |  | 1352 |  | 1407 | 1415 |

Mins.

| 10 | 6 | 6 | 6 | 6 | 6 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 20 | 11 | 11 | 12 | 12 | 12 |
| 30 | 17 | 17 | 18 | 18 | 18 |
| 40 | 22 | 22 | 23 | 23 | 24 |
| 50 | 28 | 29 | 29 | 29 | 30 |
| 60 | 34 | 35 | 35 | 35 | 36 |

## 6A. MOTIONS OF THE MOON

| Days | $28^{\circ} 45^{\prime}$ | $29^{\circ} 00^{\prime}$ | $29^{\circ} 15^{\prime}$ | $29^{\circ} 30^{\prime}$ | $29^{\circ} 45^{\prime}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\circ$ | $\circ$ | $\circ$ | $\circ$ | $\circ$ |
| 1 | 1422 | 1430 | 1437 | 1445 | $\circ$ |

Hrs.

| 1 |  | 36 |  | 36 |  | 37 |  | 37 |  | 37 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 2 | 1 | 12 | 1 | 12 |  | 1 | 13 |  | 1 | 14 |
| 3 | 1 | 48 | 1 | 49 |  | 1 | 50 |  | 1 | 14 |
| 4 | 2 | 24 |  | 2 | 25 |  | 2 | 26 |  | 2 |

Mins.

| 10 | 6 | 6 | 6 | 6 | 6 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 20 | 12 | 12 | 12 | 12 | 12 |
| 30 | 18 | 18 | 19 | 19 | 19 |
| 40 | 24 | 24 | 25 | 25 | 25 |
| 50 | 30 | 30 | 31 | 31 | 31 |
| 60 | 26 | 36 | 37 | 37 | 37 |

6A. MOTIONS OF THE MOON

| Days | $30^{\circ} 00^{\prime}$ | $30^{\circ} 15^{\prime}$ | $30^{\circ} 30^{\circ}$ |
| :---: | :---: | :---: | :---: |
|  | $\circ$ | $\circ$ | $\circ$ |
| 1 | 1500 | 1507 | $15 \quad 15$ |
| 2 | 3000 | 3015 | 3030 |

Hrs.

| 1 | 37 | 38 | 38 |
| :---: | :---: | :---: | :---: |
| 2 | 115 | 116 | 116 |
| 3 | 152 | 153 | 154 |
| 4 | 230 | 231 | 233 |
| 5 | 307 | 309 | 311 |
| 6 | 345 | 347 | 349 |
| 7 | 422 | 423 | 427 |
| 8 | 500 | 503 | 505 |
| 9 | 537 | 540 | 543 |
| 10 | 615 | 618 | 621 |
| 11 | 652 | 656 | 700 |
| 12 | 730 | 733 | 737 |
| 13 | 807 | 811 | 816 |
| 14 | 845 | 849 | 853 |
| 15 | 922 | 927 | 932 |
| 16 | 1000 | 1005 | 1010 |
| 17 | 1037 | 1042 | 1048 |
| 18 | 1115 | 1120 | 1126 |
| 19 | 1152 | 1158 | 1204 |
| 20 | 1230 | 1236 | 1242 |
| 21 | 1307 | 1313 | 1320 |
| 22 | 1345 | 1351 | 1359 |
| 23 | 1422 | 1429 | 1437 |
| 24 | 1500 | 1507 | 1515 |

Mins.

| 10 | 6 | 6 | 6 |
| ---: | ---: | ---: | ---: |
| 20 | 12 | 13 | 12 |
| 30 | 19 | 20 | 20 |
| 40 | 25 | 26 | 26 |
| 50 | 31 | 32 | 32 |
| 60 | 37 | 38 | 38 |

6B. MOTIONS OF THE SUN, MERCURY, AND VENUS

| Days | $1^{\circ} 00^{\prime}$ | $1^{\circ} 15^{\prime}$ | $1^{\circ} 30^{\prime}$ | $1^{\circ} 45^{\prime}$ | $2^{\circ} 00^{\prime}$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
|  | 0 | 0 | $\circ$ | 0 | 0 |
| 1 | 9 | 11 | 13 | 15 | 17 |
| 2 | 17 | 22 | 26 | 30 | 34 |
| 3 | 26 | 33 | 38 | 45 | 52 |
| 4 | 34 | 44 | 51 | 100 | 109 |
| 5 | 43 | 55 | 104 | 15 | 125 |
| 6 | 52 | 105 | 117 | 130 | 143 |
| 7 | 100 | 115 | 130 | 145 | 200 |


| Hrs. |  |  |  |  |  |
| :---: | ---: | ---: | ---: | ---: | ---: |
| 1 | 0 | 0 | 1 | 1 | 1 |
| 2 | 1 | 1 | 1 | 1 | 1 |
| 3 | 1 | 1 | 2 | 2 | 2 |
| 4 | 1 | 2 | 2 | 2 | 3 |
| 5 | 2 | 2 | 3 | 3 | 4 |
| 6 | 2 | 2 | 3 | 3 | 4 |
| 7 | 3 | 3 | 4 | 4 | 5 |
| 8 | 3 | 3 | 4 | 5 | 6 |
| 9 | 3 | 4 | 5 | 6 | 6 |
| 10 | 4 | 4 | 5 | 6 | 7 |
| 11 | 4 | 5 | 6 | 7 | 8 |
| 12 | 4 | 5 | 6 | 7 | 8 |
| 13 | 5 | 6 | 7 | 8 | 9 |
| 14 | 5 | 6 | 8 | 9 | 10 |
| 15 | 5 | 7 | 8 | 9 | 11 |
| 16 | 6 | 7 | 9 | 10 | 11 |
| 17 | 6 | 8 | 9 | 10 | 12 |
| 18 | 6 | 8 | 10 | 11 | 13 |
| 19 | 7 | 9 | 10 | 12 | 13 |
| 20 | 7 | 9 | 11 | 12 | 14 |
| 21 | 8 | 10 | 11 | 13 | 14 |
| 22 | 8 | 10 | 12 | 14 | 15 |
| 23 | 9 | 11 | 12 | 14 | 16 |
| 24 | 9 | 11 | 13 | 15 | 17 |


| Mins. |  |  |  |  |  |
| :---: | :--- | :--- | :--- | :--- | :--- |
| 15 | 0 | 0 | 0 | 0 | 0 |
| 30 | 0 | 0 | 0 | 0 | 0 |
| 45 | 0 | 0 | 0 | 0 | 0 |
| 60 | 0 | 0 | 1 | 1 | 1 |

6B. MOTIONS OF THE SUN, MERCURY, AND VENUS

| Days | $2^{\circ} 15^{\prime}$ | $2^{\circ} 30^{\prime}$ | $2^{\circ} 45^{\prime}$ | $3^{\circ} 00^{\prime}$ | $3^{\circ} 15^{\prime}$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | 0 | 0 | $\circ$ | $\circ$ | 0 |


| Hrs. |  |  |  |  |  |
| :---: | :--- | :--- | :--- | :--- | :--- |
| 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 2 | 2 | 2 | 2 | 2 |
| 3 | 2 | 3 | 3 | 3 | 3 |
| 4 | 3 | 3 | 4 | 4 | 5 |
| 5 | 4 | 4 | 5 | 5 | 6 |
| 6 | 5 | 5 | 6 | 6 | 7 |


| 7 | 6 | 6 | 7 | 8 | 8 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 8 | 6 | 7 | 8 | 9 | 9 |
| 9 | 7 | 8 | 9 | 10 | 10 |
| 10 | 8 | 9 | 10 | 11 | 12 |
| 11 | 9 | 10 | 11 | 12 | 13 |
| 12 | 10 | 11 | 12 | 13 | 14 |


| 13 | 11 | 12 | 13 | 14 | 15 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 14 | 11 | 13 | 14 | 15 | 16 |
| 15 | 12 | 14 | 15 | 16 | 17 |
| 16 | 13 | 14 | 16 | 17 | 19 |
| 17 | 14 | 15 | 17 | 18 | 20 |
| 18 | 14 | 16 | 18 | 19 | 21 |
| 19 | 15 | 17 | 19 | 21 | 22 |
| 20 | 16 | 18 | 20 | 22 | 23 |
| 21 | 17 | 18 | 21 | 23 | 24 |
| 22 | 18 | 19 | 22 | 24 | 26 |
| 23 | 18 | 20 | 23 | 25 | 27 |
| 24 | 19 | 21 | 24 | 26 | 28 |


| Mins. |  |  |  |  |  |
| :---: | :--- | :--- | :--- | :--- | :--- |
| 15 | 0 | 0 | 0 | 0 | 0 |
| 30 | 0 | 0 | 0 | 1 | 1 |
| 45 | 1 | 1 | 1 | 1 | 1 |
| 60 | 1 | 1 | 1 | 1 | 1 |

6B. MOTIONS OF THE SUN, MERCURY, AND VENUS

| Davs | $3^{\circ} 30^{\prime}$ | $3^{\circ} 45^{\prime}$ | $4^{\circ} 00^{\prime}$ | $4^{\circ} 15^{\prime}$ | $4^{\circ} 30^{\circ}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\circ$ | 0 | 0 | 0 | 0 |
| 1 | 30 | 32 | 34 | 36 | 38 |
| 2 | 100 | 104 | 108 | 112 | 116 |
| 3 | 130 | 136 | 141 | 148 | 155 |
| 4 | 200 | 208 | 214 | 225 | 234 |
| 5 | 230 | 240 | 248 | 302 | 313 |
| 6 | 300 | 313 | 325 | 339 | 352 |
| 7 | 330 | 345 | 400 | 415 | 430 |

Hrs.

| 1 | 1 | 1 | 1 | 1 | 2 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 2 | 2 | 3 | 3 | 3 | 3 |
| 3 | 4 | 4 | 4 | 4 | 5 |
| 4 | 5 | 6 | 6 | 6 | 6 |
| 5 | 6 | 7 | 7 | 7 | 8 |
| 6 | 7 | 8 | 8 | 9 | 9 |
| 7 | 8 | 10 | 10 | 10 | 11 |
| 8 | 9 | 11 | 11 | 12 | 13 |
| 9 | 11 | 13 | 13 | 13 | 14 |
| 10 | 12 | 14 | 14 | 15 | 16 |
| 11 | 14 | 16 | 16 | 16 | 17 |
| 12 | 16 | 17 | 17 | 18 | 19 |
| 13 | 17 | 18 | 18 | 19 | 21 |
| 14 | 18 | 20 | 20 | 21 | 22 |
| 15 | 20 | 21 | 21 | 22 | 24 |
| 16 | 21 | 23 | 23 | 24 | 26 |
| 17 | 22 | 24 | 24 | 25 | 27 |
| 18 | 23 | 25 | 25 | 27 | 29 |
| 19 | 24 | 26 | 27 | 28 | 30 |
| 20 | 25 | 27 | 28 | 30 | 32 |
| 21 | 27 | 28 | 30 | 32 | 34 |
| 22 | 28 | 29 | 31 | 34 | 36 |
| 23 | 29 | 31 | 33 | 35 | 37 |
| 24 | 30 | 32 | 34 | 36 | 38 |


| Mins. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 15 | 0 | 0 | 0 | 0 | 0 |
| 30 | 1 | 1 | 1 | 1 | 1 |
| 45 | 1 | 1 | 1 | 1 | 1 |
| 60 | 1 | 1 | 1 | 1 | 2 |

68. MOTIONS OF THE SUN, MERCURY, AND VENUS

| Days | $4^{\circ} 45^{\prime}$ | $5^{\circ} 00^{\circ}$ | $5^{\circ} 15^{\circ}$ | $5^{\circ} 30^{\prime}$ | $5^{\circ} 45^{\circ}$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0 | 0 | 0 | 0 | 0 |
| 1 | 41 | 43 | 45 | 47 | 50 |
| 2 | 122 | 126 | 130 | 134 | 139 |
| 3 | 203 | 208 | 215 | 221 | 228 |
| 4 | 244 | 251 | 300 | 308 | 317 |
| 5 | 324 | 334 | 345 | 355 | 406 |
| 6 | 404 | 417 | 430 | 443 | 455 |
| 7 | 445 | 500 | 515 | 530 | 545 |


| Hrs. |  |  |  |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 1 | 2 | 2 | 2 | 2 | 2 |
| 2 | 3 | 4 | 4 | 4 | 4 |
| 3 | 5 | 5 | 5 | 6 | 6 |
| 4 | 7 | 7 | 7 | 8 | 8 |
| 5 | 8 | 9 | 9 | 10 | 10 |
| 6 | 10 | 11 | 11 | 12 | 12 |
| 7 | 12 | 12 | 13 | 14 | 14 |
| 8 | 13 | 14 | 15 | 16 | 17 |
| 9 | 15 | 16 | 17 | 18 | 19 |
| 10 | 16 | 17 | 19 | 20 | 21 |
| 11 | 18 | 19 | 21 | 22 | 23 |
| 12 | 20 | 21 | 23 | 23 | 25 |
| 13 | 22 | 23 | 25 | 25 | 27 |
| 14 | 23 | 24 | 26 | 26 | 29 |
| 15 | 25 | 26 | 28 | 28 | 31 |
| 16 | 27 | 29 | 31 | 31 | 33 |
| 17 | 29 | 31 | 33 | 33 | 35 |
| 18 | 31 | 33 | 35 | 35 | 37 |
| 19 | 32 | 34 | 36 | 36 | 39 |
| 20 | 34 | 36 | 38 | 38 | 41 |
| 21 | 37 | 38 | 40 | 40 | 43 |
| 22 | 37 | 39 | 41 | 42 | 45 |
| 23 | 39 | 41 | 43 | 44 | 47 |
| 24 | 41 | 43 | 45 | 47 | 50 |


| Mins. |  |  |  |  |  |
| :---: | :--- | :--- | :--- | :--- | :--- |
| 15 | 0 | 0 | 0 | 0 | 0 |
| 30 | 1 | 1 | 1 | 1 | 1 |
| 45 | 1 | 1 | 1 | 1 | 1 |
| 60 | 2 | 2 | 2 | 2 | 2 |

6B. MOTIQNS OF THE SUN, MERCURY, AND VENUS

| Davs | $6^{\circ} 00^{\prime}$ | $6^{\circ} 15^{\prime}$ | $6^{\circ} 30^{\prime}$ | $6^{\circ} 45^{\prime}$ | $7^{\circ} 00^{\prime}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 5 | 5 | 0 | 5 |  |
| 1 | 52 | 54 | 56 | 58 | 100 |
| 2 | 145 | 148 | 152 | 156 | 200 |
| 3 | 234 | 242 | 249 | 254 | 300 |
| 4 | 326 | 335 | 344 | 352 | 400 |
| 5 | 417 | 428 | 439 | 450 | 500 |
| 6 | 508 | 521 | 534 | 547 | 600 |
| 7 | 600 | 615 | 630 | 645 | 700 |


| Hrs. |  |  |  |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 1 | 2 | 2 | 2 | 2 | 2 |
| 2 | 4 | 4 | 5 | 5 | 5 |
| 3 | 6 | 7 | 7 | 7 | 7 |
| 4 | 9 | 9 | 9 | 10 | 10 |
| 5 | 11 | 11 | 12 | 12 | 12 |
| 6 | 13 | 13 | 14 | 14 | 15 |
| 7 | 15 | 16 | 16 | 17 | 17 |
| 8 | 17 | 18 | 19 | 19 | 20 |
| 9 | 20 | 20 | 21 | 22 | 22 |
| 10 | 22 | 22 | 23 | 24 | 25 |
| 11 | 24 | 25 | 26 | 27 | 27 |
| 12 | 26 | 27 | 28 | 29 | 30 |
| 13 | 28 | 29 | 30 | 31 | 32 |
| 14 | 30 | 31 | 33 | 34 | 35 |
| 15 | 32 | 34 | 35 | 36 | 37 |
| 16 | 35 | 36 | 37 | 39 | 40 |
| 17 | 37 | 38 | 40 | 42 | 42 |
| 18 | 39 | 40 | 42 | 44 | 45 |
| 19 | 41 | 43 | 44 | 46 | 47 |
| 20 | 43 | 45 | 47 | 48 | 50 |
| 21 | 45 | 47 | 49 | 50 | 52 |
| 22 | 48 | 49 | 51 | 53 | 55 |
| 23 | 50 | 52 | 54 | 56 | 57 |
| 24 | 52 | 54 | 56 | 58 | 100 |


| Mins. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 15 | 1 | 1 | 1 | 1 | 1 |
| 30 | 1 | 1 | 1 | 1 | 1 |
| 45 | 2 | 2 | 2 | 2 | 2 |
| 60 | 2 | 2 | 2 | 2 | 2 |

6B. MOTIONS OF THE SUN, MERCURY, AND VENUS

| Days | $7^{\circ} 15^{\prime}$ | . $7^{\circ} 30^{\prime}$ | $7^{\circ} 45^{\prime}$ | $8^{\circ} 00^{\prime}$ | $8^{\circ} 15^{\prime}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
| 1 | 102 | 104 | 107 | 109 | 111 |
| 2 | 204 | 208 | 214 | 217 | 222 |
| 3 | 306 | 312 | 321 | 326 | 333 |
| 4 | 408 | 416 | 427 | 434 | 444 |
| 5 | 510 | 520 | 533 | 543 | 554 |
| 6 | 613 | 625 | 639 | 652 | 705 |
| 7 | 715 | 730 | 745 | 800 | 815 |
| Hrs. |  |  |  |  |  |
| 1 | 3 | 3 | 3 | 3 | 3 |
| 2 | 5 | 5 | 6 | 6 | 6 |
| 3 | 8 | 8 | 8 | 8 | 9 |
| 4 | 10 | 11 | 11 | 11 | 12 |
| 5 | 13 | 13 | 14 | 14 | 15 |
| 6 | 15 | 16 | 17 | 17 | 18 |
| 7 | 18 | 19 | 20 | 20 | 21 |
| 8 | 21 | 21 | 22 | 23 | 24 |
| 9 | 23 | 24 | 25 | 26 | 27 |
| 10 | 26 | 27 | 28 | 29 | 30 |
| 11 | 28 | 29 | 31 | 32 | 33 |
| 12 | 31 | 32 | 33 | 34 | 36 |
| 13 | 34 | 35 | 36 | 37 | 38 |
| 14 | 36 | 37 | 39 | 40 | 41 |
| 15 | 39 | 40 | 42 | 43 | 44 |
| 16 | 41 | 43 | 45 | 46 | 47 |
| 17 | 44 | 45 | 47 | 49 | 50 |
| 18 | 46 | 48 | 50 | 52 | 53 |
| 19 | 49 | 51 | 53 | 55 | 56 |
| 20 | 52 | 53 | 56 | 57 | 59 |
| 21 | 54 | 56 | 59 | 100 | 102 |
| 22 | 57 | 59 | 101 | 103 | 105 |
| 23 | 59 | 101 | 104 | 106 | 108 |
| 24 | 102 | 104 | 107 | 109 | 111 |

Mins.

| 15 | 1 | 1 | 1 | 1 | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 30 | 1 | 1 | 1 | 1 | 1 |
| 45 | 2 | 2 | 2 | 2 | 2 |
| 60 | 3 | 3 | 3 | 3 | 3 |

6B. MOTIONS OF THE SUN, MERCURY, AND VENUS

| Days | $8^{\circ} 30^{\prime}$ | $8^{\circ} 45^{\prime}$ | $9^{\circ} 00^{\prime}$ | $9^{\circ} 15^{\prime}$ | $9^{\circ} 30^{\prime}$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\circ$ | $\circ$ | 0 | 0 | 0 |
| 1 | 113 | 115 | 117 | 119 | 121 |
| 2 | 226 | 230 | 234 | 238 | 242 |
| 3 | 339 | 345 | 352 | 357 | 404 |
| 4 | 452 | 500 | 509 | 516 | 525 |
| 5 | 604 | 615 | 625 | 636 | 646 |
| 6 | 717 | 730 | 743 | 756 | 808 |
| 7 | 830 | 845 | 900 | 915 | 930 |


| Hrs. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 3 | 3 | 3 | 3 | 3 |
| 2 | 6 | 6 | 6 | 7 | 7 |
| 3 | 9 | 9 | 10 | 10 | 10 |
| 4 | 12 | 12 | 13 | 13 | 13 |
| 5 | 15 | 16 | 16 | 16 | 17 |
| 6 | 18 | 19 | 19 | 20 | 20 |
| 7 | 22 | 22 | 22 | 23 | 24 |
| 8 | 25 | 25 | 26 | 26 | 27 |
| 9 | 28 | 28 | 29 | 30 | 30 |
| 10 | 31 | 31 | 32 | 33 | 34 |
| 11 | 33 | 34 | 35 | 36 | 37 |
| 12 | 36 | 37 | 38 | 39 | 40 |
| 13 | 40 | 41 | 42 | 43 | 44 |
| 14 | 43 | 44 | 45 | 46 | 47 |
| 15 | 46 | 47 | 48 | 49 | 50 |
| 16 | 49 | 50 | 51 | 53 | 53 |
| 17 | 52 | 53 | 55 | 56 | 56 |
| 18 | 55 | 56 | 58 | 59 | 100 |
| 19 | 58 | 59 | 101 | 103 | 104 |
| 20 | 101 | 102 | 104 | 106 | 108 |
| 21 | 104 | 106 | 108 | 110 | 112 |
| 22 | 107 | 109 | 111 | 113 | 115 |
| 23 | 110 | 112 | 113 | 115 | 117 |
| 24 | 113 | 115 | 117 | 119 | 121 |

Mins.

| 15 | 1 | 1 | 1 | 1 | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 30 | 1 | 2 | 2 | 2 | 2 |
| 45 | 2 | 2 | 2 | 2 | 3 |
| 60 | 3 | 3 | 3 | 3 | 3 |

6B. MOTIONS OF THE SUN, MERCURY, AND VENUS

| Days | $9^{\circ} 45^{\prime}$ | $10^{\circ} 00^{\circ}$ | $10^{\circ} 15^{\prime}$ | $10^{\circ} 30^{\prime}$ | $10^{\circ} 45^{\prime}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
| 1 | 123 | 126 | 128 | 130 | 132 |
| 2 | 248 | 252 | 256 | 300 | 304 |
| 3 | 411 | 418 | 424 | 430 | 436 |
| 4 | 534 | 545 | 553 | 600 | 608 |
| 5 | 658 | 709 | 719 | 730 | 740 |
| 6 | 821 | 834 | 836 | 900 | 913 |
| 7 | 945 | 1000 | 1015 | 1030 | 1045 |

Hrs.

| 1 | 3 | 4 | 4 | 4 | 4 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | 7 | 7 | 7 | 7 | 8 |
| 3 | 10 | 11 | 11 | 11 | 11 |
| 4 | 14 | 14 | 15 | 15 | 15 |
| 5 | 17 | 18 | 18 | 19 | 19 |
| 6 | 21 | 21 | 22 | 23 | 23 |
| 7 | 24 | 25 | 25 | 26 | 27 |
| 8 | 28 | 29 | 29 | 30 | 31 |
| 9 | 31 | 32 | 32 | 34 | 35 |
| 10 | 35 | 36 | 34 | 37 | 38 |
| 11 | 38 | 39 | 40 | 41 | 42 |
| 12 | 41 | 43 | 44 | 45 | 46 |
| 13 | 45 | 47 | 48 | 49 | 50 |
| 14 | 48 | 50 | 51 | 52 | 52 |
| 15 | 52 | 54 | 55 | 56 | 57 |
| 16 | 55 | 57 | 58 | 100 | 101 |
| 17 | 59 | 101 | 102 | 104 | 105 |
| 18 | 102 | 105 | 106 | 107 | 109 |
| 19 | 106 | 108 | 110 | 111 | 113 |
| 20 | 109 | 112 | 114 | 115 | 117 |
| 21 | 113 | 115 | 117 | 119 | 121 |
| 22 | 116 | 119 | 121 | 122 | 124 |
| 23 | 120 | 122 | 124 | 126 | 128 |
| 24 | 123 | 126 | 128 | 130 | 132 |

Mins.

| 15 | 1 | 1 | 1 | 1 | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 30 | 2 | 2 | 2 | 2 | 2 |
| 45 | 3 | 3 | 3 | 3 | 3 |
| 60 | 3 | 4 | 4 | 4 | 4 |

## 6B. MOTIONS OF THE SUN, MERCURY, AND VENUS

| Days | $11^{\circ} 00^{\prime}$ | $11^{\circ} 15^{\prime}$ | $11^{\circ} 30^{\prime}$ | $11^{\circ} 45^{\prime}$ | $12^{\circ} 00^{\circ}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 134 | 136 | 138 | 141 | 143 |
| 2 | 308 | 312 | 316 | 320 | 326 |
| 3 | 442 | 448 | 554 | 601 | 508 |
| 4 | 616 | 624 | 632 | 641 | 651 |
| 5 | 749 | 800 | 811 | 922 | 834 |
| 6 | 925 | 938 | 951 | 1004 | 1017 |
| 7 | 1100 | 1115 | 1130 | 1145 | 1200 |


| Hrs. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 4 | 4 | 4 | 4 | 4 |
| 2 | 8 | 8 | 8 | 8 | 9 |
| 3 | 12 | 12 | 12 | 12 | 13 |
| 4 | 16 | 16 | 16 | 16 | 17 |
| 5 | 20 | 20 | 20 | 21 | 21 |
| 6 | 23 | 24 | 25 | 26 | 26 |
| 7 | 27 | 28 | 29 | 30 | 30 |
| 8 | 31 | 32 | 33 | 34 | 34 |
| 9 | 35 | 36 | 37 | 38 | 39 |
| 10 | 39 | 40 | 41 | 42 | 43 |
| 11 | 43 | 44 | 45 | 46 | 47 |
| 12 | 47 | 48 | 49 | 50 | 51 |
| 13 | 51 | 52 | 53 | 54 | 56. |
| 14 | 55 | 56 | 57 | 58 | 100 |
| 15 | 59 | 100 | 101 | 102 | 104 |
| 16 | 103 | 104 | 105 | 106 | 108 |
| 17 | 107 | 108 | 109 | 110 | 112 |
| 18 | 110 | 112 | 113 | 114 | 116 |
| 19 | 114 | 116 | 117 | 118 | 120 |
| 20 | 118 | 120 | 122 | 124 | 125 |
| 21 | 122 | 124 | 126 | 128 | 130 |
| 22 | 126 | 128 | 130 | 132 | 134 |
| 23 | 130 | 132 | 134 | 136 | 139 |
| 24 | 134 | 136 | 138 | 141 | 143 |


| Mins. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 15 | 1 | 1 | 1 | 1 | 1 |
| 30 | 2 | 2 | 2 | 2 | 2 |
| 45 | 3 | 3 | 3 | 3 | 3 |
| 60 | 4 | 4 | 4 | 4 | 4 |

6B. MOTIONS OF THE SUN, MERCURY, AND VENUS

| Days | $12^{\circ} 15^{\prime}$ | $12^{\circ} 30^{\circ}$ | $12^{\circ} 45^{\prime}$ | $13^{\circ} 00^{\circ}$ | $13^{\circ} 15^{\circ}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 145 | 147 | 150 | 152 | 154 |
| 2 | 330 | 334 | 340 | 345 | 348 |
| 3 | 515 | 521 | 529 | 534 | 541 |
| 4 | 700 | 709 | 717 | 726 | 732 |
| 5 | 845 | 856 | 906 | 917 | 927 |
| 6 | 1030 | 1043 | 1055 | 1108 | 1121 |
| 7 | 1215 | 1230 | 1245 | 1300 | 1315 |


| Hrs. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 4 | 4 | 5 | 5 | 5 |
| 2 | 9 | 9 | 9 | 9 | 9 |
| 3 | 13 | 13 | 14 | 14 | 14 |
| 4 | 17 | . 18 | 18 | 19 | 19 |
| 5 | 22 | 22 | 23 | 23 | 24 |
| 6 | 26 | 27 | 27 | 28 | 28 |
| 7 | 31 | 31 | 32 | 33 | 33 |
| 8 | 35 | 36 | 37 | 37 | 38 |
| 9 | 39 | 40 | 41 | 42 | 43 |
| 10 | 44 | 45 | 46 | 47 | 47 |
| 11 | 48 | 49 | 50 | 51 | 52 |
| 12 | 52 | 53 | 55 | 56 | 57 |
| 13 | 57 | 58 | 100 | 101 | 101 |
| 14 | 101 | 102 | 104 | 105 | 106 |
| 15 | 106 | 107 | 109 | 110 | 111 |
| 16 | 110 | 111 | 113 | 115 | 116 |
| 17 | 114 | 116 | 118 | 119 | 121 |
| 18 | 119 | 120 | 122 | 124 | 125 |
| 19 | 123 | 125 | 127 | 129 | 130 |
| 20 | 127 | 129 | 132 | 133 | 135 |
| 21 | 132 | 134 | 136 | 138 | 140 |
| 22 | 136 | 138 | 141 | 142 | 144 |
| 23 | 141 | 143 | 145 | 147 | 149 |
| 24 | 145 | 147 | 150 | 1.52 | 154 |

Mins.

| 15 | 1 | 1 | 1 | 1 | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 30 | 2 | 2 | 2 | 2 | 2 |
| 45 | 3 | 3 | 3 | 3 | 3 |
| 60 | 4 | 4 | 5 | 5 | 5 |

6B. MOTIONS OF THE SUN, MERCURY, AND VENUS

| Days | $13^{\circ} 30^{\circ}$ | $13^{\circ} 45^{\circ}$ | $14^{\circ} 00^{\prime}$ | $14^{\circ} 15^{\prime}$ | $14^{\circ} 30^{\prime}$ | $14^{\circ} 45^{\circ}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | - |
| 1 | 156 | 158 | 200 | 202 | 204 | 206 |
| 2 | 352 | 356 | 400 | 404 | 408 | 412 |
| 3 | 547 | 552 | 600 | 608 | 612 | 618 |
| 4 | 741 | 751 | 8 CO | 811 | 817 | - 25 |
| 5 | 938 | 949 | 1000 | 1011 | 1023 | 1031 |
| 6 | 1134 | 1146 | 1200 | 1203 | 1227 | 1238 |
| 7 | 1330 | 1345 | 1400 | 1415 | 1430 | 1445 |


| Hrs. |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 5 | 5 | 5 | 5 | 5 | 5 |
| 2 | 10 | 10 | 10 | 10 | 10 | 10 |
| 3 | 14 | 15 | 15 | 15 | 15 | 15 |
| 4 | 19 | 20 | 20 | 20 | 20 | 20 |
| 5 | 24 | 25 | 25 | 25 | 25 | 26 |
| 6 | 29 | 30 | 30 | 31 | 31 | 32 |
| 7 | 34 | 35 | 35 | 36 | 37 | 38 |
| 8 | 39 | 40 | 40 | 41 | 42 | 43 |
| 9 | 43 | 44 | 45 | 46 | 47 | 48 |
| 10 | 48 | 49 | 50 | 51 | 52 | 53 |
| 11 | 53 | 54 | 55 | 56 | 57 | 58 |
| 12 | 58 | 59 | 100 | 102 | 103 | 104 |
| 13 | 103 | 105 | 105 | 107 | 109 | 110 |
| 14 | 108 | 110 | 110 | 112 | 115 | 116 |
| 15 | 112 | 114 | 115 | 117 | 119 | 121 |
| 16 | 117 | 119 | 120 | 122 | 123 | 125 |
| 17 | 122 | 124 | 125 | 127 | 129 | 131 |
| 18 | 127 | 129 | 130 | 132 | 134 | 136 |
| 19 | 132 | 134 | 135 | 137 | 139 | 141 |
| 20 | 137 | 139 | 140 | 142 | 142 | 144 |
| 21 | 142 | 144 | 145 | 147 | 149 | 148 |
| 22 | 146 | 148 | 150 | 152 | 154 | 156 |
| 23 | 151 | 153 | 155 | 157 | 159 | 201 |
| 24 | 156 | 158 | 200 | 202 | 204 | 206 |

Mins.

|  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 15 | 1 | 1 | 1 | 1 | 1 | 1 |
| 30 | 2 | 2 | 3 | 3 | 3 | 3 |
| 45 | 3 | 3 | 4 | 4 | 4 | 4 |
| 60 | 5 | 5 | 5 | 5 | 5 | 5 |


| Davs | $1^{\circ} 00^{\prime}$ | $1^{\circ} 15^{\prime}$ | $1^{\circ} 30^{\prime}$ | $1^{\circ} 45^{\prime}$ | $2^{\circ} 00^{\circ}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
| 1 | 4 | 5 | 6 | 7 | 9 |
| 2 | 9 | 11 | 13 | 15 | 17 |
| 3 | 13 | 16 | 19 | 22 | 26 |
| 4 | 17 | 21 | 25 | 29 | 34 |
| 5 | 21 | 26 | 31 | 36 | 43 |
| 6 | 26 | 31 | 38 | 44 | 52 |
| 7 | 30 | 37 | 45 | 52 | 100 |
| 8 | 34 | 42 | 51 | 59 | 109 |
| 9 | 39 | 47 | 57 | 107 | 118 |
| 10 | 44 | 53 | 104 | 114 | 126 |
| 11 | 48 | 59 | 110 | 121 | 134 |
| 12 | 53 | 104 | 116 | 129 | 143 |
| 13 | 57 | 110 | 123 | 137 | 152 |
| 14 | 100 | 115 | 130 | 145 | 200 |
| Hrs. |  |  |  |  |  |
| 1 | 0 | 0 | 0 | 0 | 0 |
| 2 | 0 | 0 | 1 | 1 | 1 |
| 3 | 0 | 1 | 1 | 1 | 1 |
| 4 | 1 | 1 | 1 | 1 | 1 |
| 5 | 1 | 1 | 1 | 2 | 2 |
| 6 | 1 | 1 | 2. | 2 | 2 |
| 7 | 1 | 1 | 2 | 2 | 3 |
| 8 | 1 | 2 | 2 | 2 | 3 |
| 9 | 1 | 2 | 2 | 3 | 3 |
| 10 | 2 | 2 | 3 | 3 | 4 |
| 11 | 2 | 2 | 3 | 3 | 4 |
| 12 | 2 | 2 | 3 | 4 | 4 |
| 13 | 2 | 3 | 4 | 4 | 5 |
| 14 | 2 | 3 | 4 | 4 | 5 |
| 15 | 2 | 3 | 4 | 4 | 5 |
| 16 | 3 | 3 | 5 | 5 | 6 |
| 17 | 3 | 4 | 5 | 5 | 6 |
| 18 | 3 | 4 | 5 | 5 | 6 |
| 19 | 3 | 4 | 5 | 6 | 7 |
| 20 | 3 | 4 | 6 | 6 | 7 |
| 21 | 3 | 4 | 6 | 6 | 8 |
| 22 | 4 | 4 | 6 | 7 | 8 |
| 23 | 4 | 5 | 6 | 7 | 9 |
| 24 | 4 | 5 | 6 | 7 | 9 |
| Mins. |  |  |  |  |  |
| 15 | 0 | 0 | 0 | 0 | 0 |
| 30 | 0 | 0 | 0 | 0 | 0 |
| 45 | 0 | 0 | 0 | 0 | 0 |
| 60 | 0 | 0 | 0 | 0 | 0 |

6C. MOTIONS OF MARS, JUPITER, AND SATURN

| Days | $2^{\circ} 15^{\prime}$ | $2^{\circ} 30^{\prime}$ | $2^{\circ} 45^{\prime}$ |  | $3^{\circ} 00^{\prime}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0 | 0 | $3^{\circ} 15^{\prime}$ |  |  |
| 1 | 10 | 11 | 12 | 13 | 14 |
| 2 | 20 | 22 | 24 | 26 | 28 |
| 3 | 30 | 33 | 36 | 39 | 42 |
| 4 | 40 | 44 | 48 | 51 | 55 |
| 5 | 50 | 55 | 101 | 104 | 109 |
| 6 | 59 | 105 | 113 | 117 | 123 |
| 7 | 108 | 115 | 123 | 130 | 137 |
| 8 | 118 | 126 | 135 | 143 | 151 |
| 9 | 128 | 137 | 147 | 155 | 205 |
| 10 | 138 | 148 | 159 | 208 | 219 |
| 11 | 147 | 159 | 211 | 221 | 233 |
| 12 | 157 | 209 | 222 | 234 | 247 |
| 13 | 206 | 219 | 233 | 247 | 301 |
| 14 | 215 | 230 | 245 | 300 | 315 |


| Hrs. |  |  |  |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 1 | 0 | 0 | 1 | 1 | 1 |
| 2 | 1 | 1 | 1 | 1 | 1 |
| 3 | 1 | 1 | 2 | 2 | 2 |
| 4 | 2 | 2 | 2 | 2 | 2 |
| 5 | 2 | 2 | 3 | 3 | 3 |
| 6 | 2 | 2 | 3 | 3 | 4 |
| 7 | 3 | 3 | 4 | 4 | 4 |
| 8 | 3 | 3 | 4 | 4 | 5 |
| 9 | 4 | 4 | 5 | 5 | 6 |
| 10 | 4 | 4 | 5 | 5 | 6 |
| 11 | 5 | 5 | 6 | 6 | 7 |
| 12 | 5 | 5 | 6 | 6 | 7 |
| 13 | 6 | 6 | 7 | 7 | 8 |
| 14 | 6 | 6 | 7 | 8 | 8 |
| 15 | 6 | 7 | 8 | 8 | 9 |
| 16 | 7 | 7 | 8 | 9 | 9 |
| 17 | 7 | 8 | 9 | 9 | 10 |
| 18 | 8 | 8 | 9 | 10 | 10 |
| 19 | 8 | 9 | 10 | 10 | 11 |
| 20 | 9 | 9 | 10 | 11 | 11 |
| 21 | 9 | 10 | 11 | 11 | 12 |
| 22 | 9 | 10 | 11 | 12 | 12 |
| 23 | 10 | 11 | 12 | 12 | 13 |
| 24 | 10 | 11 | 12 | 13 | 14 |


| Mins. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 15 | 0 | 0 | 0 | 0 | 0 |
| 30 | 0 | 0 | 0 | 0 | 0 |
| 45 | 0 | 0 | 0 | 0 | 0 |
| 60 | 0 | 0 | 1 | 1 | 1 |


| Days | $3^{\circ} 30^{\prime}$ | $3^{\circ} 45^{\prime}$ | $4^{\circ} 00^{\prime}$ | $4^{\circ} 15^{\prime}$ | $4^{\circ} 30^{\circ}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 15 | 16 | 17 | 18 | 19 |
| 2 | 30 | 32 | 34. | 36 | 38 |
| 3 | 45 | 48 | 52 | 54 | 57 |
| 4 | 100 | 104 | 109 | 112 | 116 |
| 5 | 115 | 120 | 125 | 130 | 135 |
| 6 | 130 | 136 | 143 | 148 | 155 |
| 7 | 145 | 152 | 200 | 2.07 | 214 |
| 8 | 200 | 208 | 217 | 226 | 234 |
| 9 | 215 | 224 | 234 | 244 | 253 |
| 10 | 230 | 240 | 252 | 302 | 312 |
| 11 | 245 | 256 | 309 | 320 | 331 |
| 12 | 300 | 313 | 325 | 338 | 350 |
| 13 | 315 | 329 | 343 | 356 | 410 |
| 14 | 330 | 345 | 400 | 315 | 430 |


| Hrs. |  |  |  |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 1 | 1 | 1 | 2 | 2 |
| 3 | 2 | 2 | 2 | 2 | 2 |
| 4 | 2 | 2 | 3 | 3 | 3 |
| 5 | 3 | 3 | 4 | 4 | 4 |
| 6 | 3 | 3 | 4 | 4 | 5 |
| 7 | 4 | 4 | 5 | 5 | 6 |
| 8 | 5 | 5 | 6 | 6 | 6 |
| 9 | 6 | 6 | 6 | 7 | 7 |
| 10 | 6 | 6 | 7 | 8 | 8 |
| 11 | 7 | 7 | 8 | 8 | 9 |
| 12 | 7 | 7 | 8 | 9 | 10 |
| 13 | 8 | 8 | 9 | 10 | 11 |
| 14 | 9 | 9 | 10 | 10 | 11 |
| 15 | 9 | 10 | 11 | 11 | 12 |
| 16 | 10 | 10 | 11 | 12 | 13 |
| 17 | 10 | 11 | 12 | 13 | 14 |
| 18 | 11 | 12 | 13 | 13 | 14 |
| 19 | 12 | 12 | 13 | 14 | 15 |
| 20 | 12 | 13 | 14 | 15 | 16 |
| 21 | 13 | 13 | 14 | 16 | 17 |
| 22 | 14 | 14 | 15 | 16 | 18 |
| 23 | 14 | 15 | 18 | 17 | 18 |
| 24 | 15 | 16 | 17 | 18 | 19 |


| Mins. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 15 | 0 | 0 | 0 | 0 | 0 |
| 30 | 0 | 0 | 0 | 0 | 0 |
| 45 | 0 | 0 | 0 | 1 | 1 |
| 60 | 1 | 1 | 1 | 1 | 1 |


| Days | $4^{\circ} 45^{\prime}$ | $5^{\circ} 00^{\prime}$ | $5^{\circ} 15^{\prime}$ | $5^{\circ} 30^{\prime}$ | $5^{\circ} 45^{\prime}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | $\bigcirc$ |
| 1 | 20 | 21 | 22 | 23 | 24 |
| 2 | 40 | 42 | 44 | 56 | 50 |
| 3 | 101 | 104 | 106 | 109 | 115 |
| 4 | 121 | 125 | 129 | 133 | 140 |
| 5 | 141 | 146 | 151 | 156 | 204 |
| 6 | 201 | 208 | 213 | 220 | 228 |
| 7 | 222 | 230 | 237 | 244 | 253 |
| 8 | 243 | 252 | 259 | 307 | 318 |
| 9 | 303 | 312 | 321 | 331 | 3.42 |
| 10 | 323 | 333 | 344 | 355 | 407 |
| 11 | 344 | 355 | 407 | 419 | 432 |
| 12 | 404 | 417 | 430 | 442 | 456 |
| 13 | 424 | 439 | 453 | 507 | 520 |
| 14 | 445 | 500 | 515 | 530 | 545 |
| Hrs. |  |  |  |  |  |
| 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 2 | 2 | 2 | 2 | 2 |
| 3 | 2 | 3 | 3 | 3 | 3 |
| 4 | 3 | 3 | 4 | 4 | 4 |
| 5 | 4 | 4 | 5 | 5 | 5 |
| 6 | 5 | 5 | 6 | 6 | 6 |
| 7 | 6 | 6 | 7 | 7 | 7 |
| 8 | 7 | 7 | 7 | 8 | 8 |
| 9 | 8 | 8 | 8 | 9 | 9 |
| 10 | 8 | 9 | 9 | 10 | 10 |
| 11 | 9 | 10 | 10 | 11 | 11 |
| 12 | 10 | 11 | 11 | 11 | 12 |
| 13 | 11 | 12 | 12 | 12 | 13 |
| 14 | 12 | 13 | 13 | 13 | 14 |
| 15 | 13 | 14 | 14 | 14 | 15 |
| 16 | 13 | 14 | 15 | 15 | 16 |
| 17 | 14 | 15 | 16 | 16 | 17 |
| 18 | 15 | 16 | 17 | 17 | 18 |
| 19 | 16 | 17 | 18 | 18 | 19 |
| 20 | 17 | 18 | 19 | 19 | 20 |
| 21 | 17 | 18 | 20 | 20 | 21 |
| 22 | 18 | 19 | 21 | 21 | 22 |
| 23 | 19 | 20 | 21 | 22 | 23 |
| 24 | 20 | 21 | 22 | 23 | 24 |
| Mins. |  |  |  |  |  |
| 15 | 0 | 0 | 0 | 0 | 0 |
| 30 | 0 | 0 | 0 | 0 | 0 |
| 45 | 1 | 1 | 1 | 1 | 1 |
| 60 | 1 | 1 | 1 | 1 | 1 |

## 6C. MOTIONS OF MARS, JUPITER, AND SATURN

| Days | $6^{\circ} 00^{\prime}$ | $6^{\circ} 15^{\circ}$ | $6^{\circ} 30^{\circ}$ | $6^{\circ} 45^{\prime}$ | $7^{\circ} 00^{\circ}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0 | 0 | 0 | 0 | 0 |
| 1 | 26 | 27 | 28 | 29 | 30 |
| 2 | 52 | 54 | 56 | 58 | 100 |
| 3 | 118 | 121 | 124 | 127 | 130 |
| 4 | 145 | 149 | 153 | 157 | 200 |
| 5 | 209 | 214 | 219 | 224 | 230 |
| 6 | 235 | 241 | 247 | 253 | 300 |
| 7 | 300 | 308 | 315 | 322 | 330 |
| 8 | 326 | 335 | 344 | 353 | 400 |
| 9 | 352 | 402 | 412 | 412 | 430 |
| 10 | 418 | 429 | 440 | 442 | 600 |
| 11 | 445 | 457 | 509 | 513 | 530 |
| 12 | 509 | 522 | 535 | 544 | 600 |
| 13 | 535 | 549 | 603 | 615 | 630 |
| 14 | 600 | 615 | 630 | 645 | 700 |


| Hrs. |  |  |  |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 2 | 2 | 2 | 2 | 2 |
| 3 | 3 | 3 | 3 | 4 | 4 |
| 4 | 4 | 4 | 5 | 5 | 5 |
| 5 | 5 | 6 | 6 | 6 | 6 |
| 6 | 6 | 7 | 7 | 7 | 7 |
| 7 | 8 | 8 | 8 | 8 | 8 |
| 8 | 9 | 9 | 9 | 9 | 9 |
| 9 | 10 | 10 | 10 | 11 | 11 |
| 10 | 11 | 11 | 12 | 12 | 12 |
| 11 | 12 | 12 | 13 | 13 | 14 |
| 12 | 13 | 13 | 14 | 15 | 16 |
| 13 | 14 | 15 | 15 | 16 | 17 |
| 14 | 15 | 16 | 16 | 17 | 18 |
| 15 | 16 | 17 | 17 | 19 | 20 |
| 16 | 17 | 18 | 19 | 20 | 21 |
| 17 | 18 | 19 | 20 | 21 | 22 |
| 18 | 19 | 20 | 21 | 22 | 23 |
| 19 | 21 | 21 | 22 | 23 | 24 |
| 20 | 22 | 23 | 23 | 24 | 25 |
| 21 | 23 | 24 | 24 | 26 | 27 |
| 22 | 23 | 25 | 26 | 27 | 28 |
| 23 | 25 | 26 | 27 | 28 | 29 |
| 24 | 26 | 27 | 28 | 29 | 30 |


| Mins. |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 15 | 0 | 0 | 0 | 0 | 0 |
| 30 | 1 | 1 | 1 | 1 | 1 |
| 45 | 1 | 1 | 1 | 1 | 1 |
| 60 | 1 | 1 | 1 | 1 | 1 |


| Days | $7^{\circ} 15^{\prime}$ | $7^{\circ} 30^{\circ}$ | $7^{\circ} 45^{\prime}$ | $8^{\circ} 00^{\circ}$ | $8^{\circ} 15^{\prime}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | - |
| 1 | 31 | 32 | 33 | 34 | 35 |
| 2 | 102 | 104 | 107 | 108 | 110 |
| 3 | 133 | 136 | 139 | 141 | 145 |
| 4 | 204 | 208 | 212 | 214 | 229 |
| 5 | 235 | 241 | 246 | 248 | 254 |
| 6 | 306 | 313 | 319 | 325 | 331 |
| 7 | 337 | 345 | 352 | 400 | 407 |
| 8 | 408 | 417 | 426 | 434 | 443 |
| 9 | 440 | 450 | 500 | 508 | 519 |
| 10 | 511 | 522 | 533 | 541 | 554 |
| 11 | 542 | 544 | 607 | 604 | 629 |
| 12 | 613 | 626 | 640 | 648 | 704 |
| 13 | 643 | 657 | 713 | 725 | 740 |
| 14 | 715 | 730 | 745 | 800 | 815 |


| Hrs. |  |  |  |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 3 | 3 | 3 | 3 | 3 |
| 3 | 4 | 4 | 4 | 4 | 4 |
| 4 | 5 | 5 | 6 | 6 | 6 |
| 5 | 6 | 7 | 7 | 7 | 7 |
| 6 | 8 | 8 | 8 | 8 | 9 |
| 7 | 9 | 9 | 10 | 10 | 10 |
| 8 | 10 | 11 | 11 | 19 | 12 |
| 9 | 12 | 12 | 12 | 13 | 13 |
| 10 | 13 | 13 | 14 | 14 | 15 |
| 11 | 14 | 15 | 15 | 16 | 16 |
| 12 | 16 | 16 | 16 | 17 | 17 |
| 13 | 17 | 17 | 18 | 18 | 19 |
| 14 | 18 | 19 | 19 | 20 | 20 |
| 15 | 19 | 20 | 21 | 21 | 22 |
| 16 | 21 | 21 | 22 | 23 | 23 |
| 17 | 22 | 23 | 23 | 24 | 25 |
| 18 | 23 | 24 | 25 | 25 | 26 |
| 19 | 25 | 25 | 26 | 27 | 28 |
| 20 | 26 | 27 | 27 | 28 | 29 |
| 21 | 28 | 28 | 29 | 30 | 31 |
| 22 | 29 | 29 | 30 | 31 | 32 |
| 23 | 30 | 31 | 32 | 33 | 34 |
| 24 | 31 | 32 | 33 | 34 | 35 |


| Mins. |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 15 | 0 | 0 | 0 | 0 | 0 |
| 30 | 1 | 1 | 1 | 1 | 1 |
| 45 | 1 | 1 | 1 | 1 | 1 |
| 60 | 1 | 1 | 1 | 1 | 1 |



| 1 |  | 36 |  | 37 |  | 39 |  | 40 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | 1 | 12 |  | 14 | 1 | 17 |  | 20 |
| 3 | 1 | 48 |  | 51 | 1 | 56 |  | 59 |
| 4 | 2 | 25 |  | 29 | 2 | 35 |  | 39 |
| 5 | 3 | 02 | 3 | 06 | 3 | 13 |  | 18 |
| 6 | 3 | 39 | 3 | 44 |  | 51 |  | 57 |
| 7 | 4 | 15 | 4 | 22 | 4 | 30 |  | 37 |
| 8 | 4 | 51 | 4 | 59 | 5 | 09 |  | 18 |
| 9 | 5 | 27 | 5 | 37 |  | 48 |  | 58 |
| 10 | 6 | 04 |  | 14 | 6 | 26 |  | 38 |
| 11 | 6 | 40 | 6 | 52 | 7 | 05 |  | 17 |
| 12 | 7 | 16 |  | 29 | 7 | 44 |  | 57 |
| 13 | 7 | 43 |  | 07 | 8 | 22 |  | 36 |
| 14 |  | 30 |  | 45 |  | 00 |  | 15 |


| Hrs. |  |  |  |  |
| :---: | :---: | :---: | :---: | ---: |
| 1 | 1 | 2 | 2 | 2 |
| 2 | 3 | 3 | 3 | 3 |
| 3 | 4 | 5 | 5 | 5 |
| 4 | 6 | 6 | 6 | 6 |
| 5 | 7 | 8 | 8 | 8 |
| 6 | 9 | 9 | 9 | 10 |


| 7 | 10 | 11 | 11 | 12 |
| ---: | ---: | ---: | ---: | ---: |
| 8 | 12 | 12 | 13 | 13 |
| 9 | 13 | 14 | 14 | 15 |
| 10 | 15 | 15 | 16 | 16 |
| 11 | 16 | 17 | 17 | 18 |
| 12 | 18 | 18 | 19 | 19 |


| 13 | 19 | 20 | 21 | 21 |
| :--- | :--- | :--- | :--- | :--- |
| 14 | 21 | 22 | 22 | 23 |
| 15 | 22 | 23 | 24 | 24 |
| 16 | 24 | 25 | 26 | 27 |
| 17 | 25 | 26 | 27 | 28 |
| 18 | 27 | 28 | 29 | 30 |
| 19 | 28 | 29 | 30 | 31 |
| 20 | 30 | 31 | 32 | 33 |
| 21 | 32 | 33 | 34 | 35 |
| 22 | 34 | 35 | 36 | 37 |
| 23 | 35 | 36 | 37 | 38 |
| 24 | 36 | 37 | 39 | 40 |


| Mins. |  |  |  |  |
| :---: | :--- | :--- | :--- | :--- |
| 15 | 0 | 0 | 0 | 0 |
| 30 | 1 | 1 | 1 | 1 |
| 45 | 1 | 1 | 1 | 1 |
| 60 | 1 | 2 | 2 | 2 |


| Days | $9^{\circ} 30^{\prime}$ | $9^{\circ} 45^{\prime}$ | $10^{\circ} 00^{\prime}$ | $10^{\circ} 15^{\circ}$ |
| :---: | :---: | :---: | :---: | :---: |
|  |  | - | $\bigcirc$ | - |
| 1 | 41 | 42 | 43 | 44 |
| 2 | 122 | 124 | 126 | 128 |
| 3 | 202 | 205 | 208 | 211 |
| 4 | 243 | 247 | 251 | 554 |
| 5 | 323 | 328 | 334 | 339 |
| 6 | 404 | 410 | 417 | 423 |
| 7 | 445 | 452 | 500 | 507 |
| 8 | 526 | 535 | 543 | 541 |
| 9 | 608 | 618 | 626 | 636 |
| 10 | 649 | 700 | 708 | 718 |
| 11 | 729 | 742 | 751 | 802 |
| 12 | 810 | 823 | 834 | 837 |
| 13 | 850 | 859 | 917 | 921 |
| 14 | 930 | 945 | 1000 | 1015 |


| Hrs. |  |  |  |  |
| ---: | ---: | ---: | ---: | ---: |
| 1 | 2 | 2 | 2 | 2 |
| 2 | 3 | 3 | 4 | 4 |
| 3 | 5 | 5 | 5 | 5 |
| 4 | 7 | 7 | 7 | 7 |
| 5 | 8 | 9 | 9 | 9 |
| 6 | 10 | 10 | 11 | 11 |
| 7 | 12 | 12 | 12 | 12 |
| 8 | 13 | 14 | 14 | 14 |
| 9 | 15 | 15 | 16 | 16 |
| 10 | 16 | 17 | 17 | 18 |
| 11 | 18 | 19 | 19 | 19 |
| 12 | 20 | 20 | 21 | 21 |
| 13 | 22 | 22 | 23 | 23 |
| 14 | 23 | 24 | 24 | 25 |
| 15 | 25 | 26 | 26 | 27 |
| 16 | 27 | 28 | 29 | 29 |
| 17 | 29 | 30 | 31 | 31 |
| 18 | 31 | 32 | 33 | 33 |
| 19 | 32 | 33 | 34 | 34 |
| 20 | 34 | 35 | 36 | 36 |
| 21 | 36 | 37 | 38 | 38 |
| 22 | 37 | 38 | 39 | 40 |
| 23 | 39 | 40 | 41 | 42 |
| 24 | 41 | 42 | 43 | 44 |

Mins.

| 15 | 0 | 0 | 0 | 0 |
| :--- | :--- | :--- | :--- | :--- |
| 30 | 1 | 1 | 1 | 1 |
| 45 | 1 | 1 | 1 | 1 |
| 60 | 2 | 2 | 2 | 2 |

6D. MOTIONS OF URANUS, NEPTUNE, PLUTO, AND N. NODE


| 1 | 0 | 1 | 1 | 2 | 2 | 3 | 3 | 4 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 2 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 3 | 1 | 3 | 4 | 6 | 7 | 9 | 10 | 12 |
| 4 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |
| 5 | 2 | 5 | 7 | 10 | 12 | 15 | 17 | 20 |
| 6 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 |
| 7 | 3 | 7 | 10 | 14 | 17 | 21 | 24 | 28 |


| 8 | 4 | 8 | 12 | 16 | 20 | 24 | 28 |  | 32 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 9 | 4 | 9 | 13 | 18 | 22 | 27 | 31 |  | 6 |
| 10 | 5 | 10 | 15 | 20 | 25 | 30 | 35 |  | 0 |
| 11 | 5 | 11 | 16 | 22 | 27 | 33 | 38 |  | 4 |
| 12 | 6 | 12 | 18 | 24 | 30 | 36 | 42 |  | 8 |
| 13 | 6 | 13 | 19 | 26 | 32 | 39 | 45 |  | 5 |
| 14 | 7 | 14 | 21 | 28 | 35 | 42 | 49 |  | 5 |
| 15 | 7 | 15 | 22 | 30 | 37 | 45 | 52 | 1 | 0 |
| 16 | $\delta$ | 16 | 24 | 32 | 40 | 48 | 56 |  | 4 |
| 17 | 8 | 17 | 25 | 34 | 42 | 51 | 59 | 1 | 8 |
| 18 | 9 | 18 | 27 | 36 | 45 | 54 | 103 | 1 | 2 |
| 19 | 9 | 19 | 28 | 38 | 47 | 57 | 106 | 1 | 6 |
| 20 | 10 | 20 | 30 | 40 | 50 | 100 | 110 | 1 | 0 |
| 21 | 10 | 21 | 31 | 42 | 52 | 103 | 113 | 1 | 4 |
| 22 | 11 | 22 | 33 | 44 | 55 | 106 | 117 | 1 | 8 |
| 23 | 11 | 23 | 34 | 46 | 57 | 109 | 120 |  | 2 |
| 24 | 12 | 24 | 36 | 48 | 100 | 112 | 124 |  | 6 |
| 25 | 12 | 25 | 37 | 50 | 102 | 115 | 127 |  | 0 |
| 26 | 13 | 26 | 39 | 52 | 105 | 118 | 131 | 1 | 4 |
| 27 | 13 | 27 | 40 | 54 | 107 | 121 | 134 | 1 | 8 |
| 28 | 14 | 28 | 42 | 56 | 110 | 124 | 138 | 1 | 2 |
| 29 | 14 | 29 | 43 | 58 | 112 | 127 | 141 | 1 | 6 |
| 30 | 15 | 30 | 45 | 100 | 115 | 130 | 145 | 2 | 0 |

TABLE 7: EPHEMERIDES 1975-1980

1975
Calculated for Midnight GMT


1975
Calculated for Midnight GMT

| DATE | 3 |
| :---: | :---: |
| 1 | 19811 |
| 3 | 18 T7P 29 |
| 5 | $16 \bumpeq 37$ |
| 7 | 13 m 27 |
| 9 | $9 \sim 11$ |
| 11 | 42007 |
| 13 | 28 |
| 15 | $22 \approx 223$ |
| 17 | 16 ¢ 06 |
| 19 | $9 \times 57$ |
| 21 | 4830 |
| 23 | 0 If 20 |
| 25 | 28 |
| 27 | 27 28 |
| 29 | $27 \sqrt{\wedge} 5$ |
| 31 | 28 TP01 |

$2226 \xlongequal{\Omega} 37$
$4237 \pi 26$
$6 \quad 18 \times 50$
$8 \quad 13$ น 20
$107 \approx 19$
121 H 06
142451
$16 \quad 18$ r 47
$18 \quad 13 \quad 18$
$20 \quad 8$ 파 56
226 セ 15
245 - 28
$266 \pi 101$
$286 \bumpeq 29$
$325 \pi_{7} 35$
4 2 271
$6 \quad 28 \quad 07$
$8 \quad 22$ ~ 26
$10 \quad 16 \approx 15$
12935
3750
162801
$18 \quad 22$ ช 46
$20 \quad 18$ ॠ 27
2215 32
$2414 \sim 15$
$26 \quad 14 \pi P 16$
$2814 \Omega 31$
$3013 \pi \pi 42$

| DATE |  |
| :---: | :---: |
| 72 | 12 T 54 |
| 4 | 7814 |
| 6 | 2 If 44 |
| 8 | 29 46 |
| 10 | 2816 |
| 12 | 27 8) 35 |
| 14 | 26747 |
| 16 | 25 ת 09 |
| 18 | $22 \pi / 28$ |
| 20 | $18 x^{7} 51$ |
| 22 | 14 v5 |
| 24 | $9 \approx 16$ |
| 26 | 3 ) 31 |
| 28 | $27 \quad 18$ |
| 30 | 21 r 03 |
| 81 | 15819 |
| 3 | 10 It 46 |
| 5 | 7 ¢ 57 |
| 7 | $6 \& 56$ |
| 9 | 6 MP 59 |
| 11 | $6 \Omega 51$ |
| 13 | 5 mo33 |
| 15 | $2>^{7} 46$ |
| 17 | $28 \quad 43$ |
| 19 | 23 vs 46 |
| 21 | $18 \approx 11$ |
| 23 | $12 \times 10$ |
| 25 | $5 \times 53$ |
| 27 | 2937 |
| 29 | 23 ¢ 51 |
| 31 | 19 I[11 |

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| 102 | 23 ภ 47 |
| :---: | :---: |
| 4 | 23 TP 52 |
| 6 | $24 \Omega 17$ |
| 8 | 23 Tu 43 |
| 10 | $21 \times 26$ |
| 12 | 17 ขึ 26 |
| 14 | $12 \geqslant 18$ |
| 16 | $6 \times 07$ |
| 18 | 2950 |
| 20 | 23 T 38 |
| 22 | $17 \times 47$ |
| 24 | 12 파 32 |
| 26 | 8 ® 08 |
| 28 | 4 of 56 |
| 30 | 37719 |

$1112 \Omega 31$
$3 \quad 2 T m 24$
51241
$\begin{array}{lll}7 & 29 & 34\end{array}$
$9 \quad 25$ vீ 47
$1120 \approx 36$
1314 3f 33
$15 \quad 8$ 个 15
172812
$19 \quad 26 \quad 45$
$21 \quad 22 \div 06$
2318 (3) 21
2415 \& 29
$27 \quad 13 \pi p \cdot 27$
$29 \quad 12 \Omega 07$
121117.05
$9 x^{n 4} 44$
7 ~5 22
$3 \approx 38$
28
33
2 H 32
$16 \gamma 14$
10 ช 16
$17 \quad 5 \times 10$
191 이 12
$2128 \quad 20$
$23 \quad 26$ ภ 12
$25 \quad 24725$
$2722 \Omega 41$
2920 Tu 46
$31 \quad 18 x^{\pi} 29$


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23 표 36 9 07

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| DATE | （ | ¢ | $\bigcirc$ | DATE | $O^{\prime}$ | 2 | 5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 11 | 9 ขึ 41 | 27 ข์ 27 | $29 \mathrm{~m}_{4} 23$ | 11 | 17 R 22 | 15 r 32 | 1 H 04 |
| 8 | $16 \quad 50$ | $6 \approx 01$ | $7 x^{19}$ | 15 | 14 II 57 | 1651 | 29 3 58 |
| 15 | $23 \quad 58$ | 9 R 15 | 7617 | 29 | 15 D 08 | $18 \quad 41$ | $28 \quad 49$ |
| 22 | $1 \approx 05$ | 354 | $24 \quad 48$ | 212 | $17 \quad 31$ | $20 \quad 58$ | 2745 |
| 29 | $8 \quad 12$ | 25 で 47 | 3 v5 21 | 26 | $21 \quad 34$ | $23 \quad 37$ | 2652 |
| 25 | $\begin{array}{ll}15 & 19 \\ 22 & 24\end{array}$ | 23 | $\begin{array}{ll}11 & 56 \\ 20 & 32\end{array}$ |  |  | 2633 | $26 \quad 17$ |
| 12 | $22 \quad 24$ | $26 \quad 42$ | 2032 | ＋ 25 | 2653 | $29 \quad 40$ | 2602 |
| 19 | $29 \quad 28$ | $3 \approx 20$ | $29 \quad 08$ | 25 48 | 2653 9 | 29 2986 | $\begin{array}{lrr}26 & 02 \\ 26 & \text { D } & 08\end{array}$ |
| 26 | 6 3 31 | 1151 | 720 | 428 | $\begin{array}{rr}9 & 35 \\ 16 & 44\end{array}$ | $6 \quad 16$ | $26 \quad 33$ |
| 34 | $13 \quad 33$ | $21 \quad 37$ | $16 \quad 23$ |  |  |  |  |
| 11 | $20 \quad 33$ | $2 \times 23$ | $25 \quad 01$ |  | $24 \quad 14$ | $\begin{array}{rr}3 & 37 \\ 12 & 55\end{array}$ | $\begin{array}{ll}27 & 23 \\ 28 & 28\end{array}$ |
| 18 | $27 \quad 31$ | $14 \quad 07$ | 3 \％ 39 | $\begin{array}{r}20 \\ \hline \quad 3\end{array}$ | $1 \Omega$ <br> 9 | $\begin{array}{ll}12 & 55 \\ 16\end{array}$ | 28 28 |
| 25 | $4{ }^{\text {r } 28}$ | 2651 | $12 \quad 17$ | 63 | 9 57 <br>   <br> 8  | $\begin{array}{ll}16 & 09 \\ 19 & 13\end{array}$ | $29 \quad 46$ |
| 41 | 1124 | $10 r 36$ | $20 \quad 55$ | 17 | 1806 | 1913 | 1 If 17 |
| 8 | $18 \quad 17$ | 2504 | 2932 |  | $26 \quad 24$ | 2206 | 56 |
| 15 | $25 \quad 09$ | 9 В 06 | 8 r 10 | 15 | 4 TP 52 | $24 \quad 42$ | 441 |
| 22 | 1 ४ 59 | $20 \quad 54$ | 1647 | 29 | $13 \quad 28$ | $26 \quad 59$ | $6 \quad 29$ |
| 29 | 848 | $29 \quad 11$ | $25 \quad 24$ | 812 | $22 \quad 13$ | $28 \quad 50$ | $8 \quad 17$ |
| 56 | $15 \quad 36$ | 3 II 18 | 4800 | 26 | $1 \bumpeq 07$ | 0 İI3 | $10 \quad 02$ |
| 13 | $22 \quad 22$ | 3 R 10 | $12 \quad 37$ |  | $10 \quad 10$ | 01 | 1142 |
| 20 | $29 \quad 06$ | 29853 | $21 \quad 13$ | 23 | $19 \quad 23$ | 1811 | $13 \quad 12$ |
| 27 | 5 III 50 | $26 \quad 13$ | $29 \quad 49$ | 107 | $28 \quad 45$ | 043 | $14 \quad 31$ |
| 63 | $12 \quad 33$ | 24 D 59 | 8 파 24 | 21 | 8 Mal | 29837 | $15 \quad 35$ |
| 10 | $19 \quad 15$ | $27 \quad 17$ | 1700 |  |  |  |  |
| 17 | $25 \quad 56$ | 3 500 | $25 \quad 36$ | 11.4 | $17 \quad 59$ | 2802 | $16 \quad 21$ |
| 24 | 2336 | 1143 | 4 （3） 12 | 18 | $27 \quad 52$ | $26 \quad 10$ | $16 \quad 47$ |
|  |  |  |  | 122 | 7855 | $24 \quad 18$ | 16 R 52 |
| 71 | 17 | $23 \quad 10$ | $12 \quad 48$ | 16 | $18 \quad 07$ | $22 \quad 43$ | 16 34 |
| 8 | $15 \quad 58$ | 6356 | $21 \quad 25$ | 30 | $28 \quad 29$ | 21.38 | $15 \quad 57$ |
| 15 | $22 \quad 38$ | 2154 | 00201 |  |  | U | （6） |
| 22 | $29 \quad 19$ | 60733 | 838 | DATE | － | ＋ | ＋ |
| 29 | 6000 | $20 \quad 02$ | $17 \quad 15$ |  | 67 m 23 | $12 \times 32$ | 11 ת 39 |
| 85 | 1242 | 27809 | $25 \quad 52$ |  | 06 | $13 \quad 27$ | 11 R 37 |
| 12 | $19 \quad 24$ | 1256 | 47829 |  | 6 R 59 | $13 \quad 55$ | 1107 |
| 19 | $26 \quad 08$ | 2220 | 1306 |  | 06 | 13 R 54 | 10 |
| 26 | 27785 | $0 \Omega 07$ | $21 \quad 43$ |  | 52 | 1326 | 932 |
|  | 39 | $5 \quad 41$ | $0 \sim 19$ |  | 342 | $12 \quad 39$ | $9 \quad 00$ |
| 9 | $16 \quad 26$ | 7851 | 855 |  | 305 | 1153 | 8 D 58 |
| 16 | $23 \quad 15$ | 508 | $17 \quad 31$ |  | 3 D 13 | 1120 | 26 |
| 23 | $0 \bumpeq 05$ | 28 mp 11 | $26 \quad 06$ | 9 | 410 | 11 D 13 | $10 \quad 20$ |
| 30 | 657 | $23 \quad 16$ | 4 m 41 | 10 | 40 | 1136 | $11 \quad 27$ |
| 107 | $13 \quad 51$ | 25 D 57 | $13 \quad 15$ | 11 | 33 | $12 \quad 26$ | $12 \quad 38$ |
| 14 | $20 \quad 46$ | $4 \bumpeq 47$ | 2148 |  | 22 | $13 \quad 31$ | $13 \quad 35$ |
| 21 | $27 \quad 43$ | 1609 | 0＊20 |  |  |  |  |
| 28 | 4 Th， 42 | $27 \quad 59$ | 852 |  | $10 \quad 53$ | 14． 39 | $14 \quad 07$ |
|  | 1142 | 9 彻35 | 1722 | DATE | ठ | DATE | $\Omega$ |
| 11 | $18 \quad 43$ | $20 \quad 52$ | $25 \quad 50$ |  | $19 m_{0} 16$ | 71 | 938 |
| 18 | $25 \quad 47$ | $1 \chi^{7} 53$ | 4 ปff 17 |  | $17 \quad 37$ | 1 | 759 |
| 25 | $2 \times 51$ | $12 \quad 43$ | $12 \quad 42$ |  | $16 \quad 05$ | 1 | $6 \quad 21$ |
| 122 | 956 | $23 \quad 24$ | $21 \quad 04$ |  | $14 \quad 27$ | 10 | 445 |
| 9 | $17 \quad 03$ | $36^{65}$ | $29 \quad 22$ |  | $12 \quad 51$ | $11 \quad 1$ | $3 \quad 07$ |
| 16 | $24 \quad 10$ | $13 \quad 34$ | $7 \approx 36$ |  | $11 \quad 13$ | 12 | 131 |
| 23 | 1 นช์ 17 | 2107 | $15 \quad 44$ |  |  | 11 | $29 \Omega 53$ |
| 30 | 825 | 23 R 00 | $23 \quad 45$ |  |  |  |  |

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| DATE | 〕） | DATE | 3 | DATE | $5$ | DATE | $3)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 11 | 2 v5 06 | 42 | 7806 | 7 | 20 of 59 | 101 | 14 ข） 37 |
| 3 | $28 \quad 37$ | 4 | 0 工 52 | 3 | 18 T7 35 | 3 | $10 \simeq 54$ |
| 5 | $24 \sim 02$ | 6 | $25 \quad 15$ | 5 | $16 \bumpeq 40$ | 5 | $63+08$ |
| 7 | 18 H 24 | 8 | 20 c 47 | 7 | $15 m_{4} 05$ | 7 | 0 T 35 |
| 9 | 12 r 09 | 10 | 17 Of 58 | 9 | $13 \times 35$ | 9 | $24 \quad 29$ |
| 11 | 5854 | 12 | 16 T7P 56 | 11 | 11 ขீ 45 | 11 | 18 ४ 05 |
| 13 | 0 Ir 21 | 14 | $17 \Omega 09$ | 13 | $9 \approx 00$ | 13 | 11 II 44 |
| 15 | 2606 | 16 | 17 Tm 28 | 15 | $4 \times 58$ | 15 | 5 ¢ 55 |
| 17 | 23 24 | 18 | $16 \times 43$ | 17 | 2940 | 17 | 1010 |
| 19 | 21 O 54 | 20 | 14 บ์ 17 | 19 | 23 r 30 | 19 | 2801 |
| 21 | 20 TP 52 | 22 | $10 \approx 11$ | 21 | 17810 | 21 | 26 Tア 39 |
| 23 | $19 \Omega 32$ | 24 | $4 \times 49$ | 23 | 11821 | 23 | $26 \Omega 39$ |
| 25 | 17 Tl 30 | 26 | $28 \quad 42$ | 25 | 6337 | 25 | $26 \mathrm{~m}_{3} 59$ |
| 27 | $14 \times 45$ | 28 | 22 T 19 | 27 | 3 S7 13 | 27 | $26 \times 28$ |
| 29 | 11 ขf 18 | 30 | 15 \％ 59 | 29 | 0 T 56 | 29 | 24 ชீ 21 |
| 31 | $7 \approx 09$ |  |  | 31 | $29 \quad 16$ | 31 | $20 \cong 35$ |
|  |  | 52 | 10 r 02 |  |  |  |  |
| 22 | 2 X 09 | 4 | 4645 |  | $27 \Omega 41$ 25 |  | $15 \times 30$ 9 |
| 4 | $26 \quad 22$ | 6 | $0 \Omega 27$ | 4 | $25 \mathrm{~m}, 52$ | 4 | 9 r 34 |
| 6 | 20 T 03 | 8 | $27 \quad 28$ | 6 | $23>44$ | 6 | 3815 |
| 8 | 13 ¢ 44 | 10 | 25 गP 56 | 8 | 21 ชช 04 | 8 | 2652 |
| 10 | 8 工 06 | 12 | $25 \Omega 35$ | 10 | $17 \approx 37$ | 10 | 20 II 42 |
| 12 | 3 6 52 | 14 | 25 ma 37 | 12 | 13 H 09 | 12 | 1504 |
| 14 | $1 \bigcirc 27$ | 16 | $24 x^{7} 56$ | 14 | 7 r 39 | 14 | 10 \＆ 20 |
| 16 | 07037 | 18 | 22 264 | 16 | 1826 | 16 | 67 mP 54 |
| 18 | $0 \Omega 28$ | 20 | $18 \approx 50$ | 18 | $25 \times 04$ | 18 | $5 \Omega 03$ |
| 20 | 29.51 | 22 | 13 H 30 | 20 | 19 Y 17 | 20 | 4 m 41 |
| 22 | 28 m， 06 | 24 | $7 \times 20$ | 22 | 14 3 42 | 22 | $5 \times 01$ |
| 24 | $25 x^{7} 06$ | 26 | 0855 | 24 | 11943 | 24 | 4 บ5 50 |
| 26 | 21 ข์ 06 | 28 | 2446 | 26 | 10 nP 09 | 26 | $3 \approx 09$ |
| 28 | $16 \approx 17$ | 30 | 19 II 14 | 28 | $9 \Omega 19$ | 28 | $29 \quad 35$ |
|  |  |  |  | 30 | 8 m 22 | 30 | $24 ; 27$ |
| 31 | $10 \times 48$ | 61 | 14 3 30 |  |  |  |  |
| 3 | $4{ }^{1} 46$ | 3 | $10 \sim 40$ |  | $6 x^{3} 44$ |  | 18 r 21 |
| 5 | 2822 | 5 | 7 m 49 | 3 | 4 2f 14 | 4 | 11856 |
| 7 | 22802 | 7 | $5 \Omega 56$ | 5 | $0 \sim 54$ | 6 | 5 K 39 |
| 9 | 16 ［ 20 | 9 | 4 m， 53 | 7 | 2644 | 8 | $29 \quad 49$ |
| 11 | 11 C57 | 11 | $4 \geqslant 12$ | 9 | 21 H 42 | 10 | 24 3 38 |
| 13 | 9825 | 13 | 3 บฐ 06 | 11 | 15 Y 54 | 12 | $20 \sim 13$ |
| 15 | 8718 | 15 | $0 \approx 50$ | 13 | 9 〕 35 | 14 | 1671945 |
| 17 | $9 \Omega 02$ | 17 | 2659 | 15 | 3 2r 11 | 16 | $14 \Omega 27$ |
| 19 | 9 Tr06 | 19 | $21 \times 43$ | 17 | $27 \quad 21$ | 18 | 13 m 22 |
| 21 | $7 x^{7} 54$ | 21 | 15 r 33 | 19 | 22 ® 44 | 20 | $13 \times 07$ |
| 23 | 5 ขํ์ 05 | 23 | ¢ 9 甘 11 | 21 | $19 \sim 49$ | 22 | 12 ขf 44 |
| 25 | $0 \approx 53$ | 25 | 3 II 14 | 23 | 187173 | 24 | $11 \approx 09$ |
| 27 | $25 \quad 39$ | 27 | $28 \quad 09$ | 25 | $18 \Omega 25$ | 26 | 7848 |
| 29 | $19 \times 46$ | 29 | $24 * 00$ | 27 | 18 T | 28 | 2 T 47 |
| 31 | 13 T 30 |  |  | 29 | $17 x^{7} 05$ | 30 | $26 \quad 41$ |


| ONAR Y POSITIONS |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $0^{7}$ | 4 | 亿 | $x$ | $\Psi$ | （－） |
| 1／15 | 6／02 | 1／21 | 9／20 | 3／28 | 2／11 | 3／16 | 1／15 |
| $9 \approx 15$ | 24857 | 14 I 44 | 1212 | 26802 | 7 m 09 | $13 x^{7} 58$ | $11 \Omega 43$ |
| $\begin{gathered} 2 / 04 \\ 23 \sim 820 \end{gathered}$ | $\begin{gathered} 9 / 09 \\ 7 \Omega 51 \end{gathered}$ |  |  | $\begin{gathered} 11 / 28 \\ 16.853 \end{gathered}$ | $7 / 11$ 3702 | $8 / 23$ $11 \propto^{\prime} 12$ | $\begin{gathered} 6 / 19 \\ 8 \Omega 55 \end{gathered}$ |
| $\begin{gathered} 5 / 10 \\ 3 \text { II } 43 \end{gathered}$ | $\begin{gathered} 10 / 02 \\ 23 \pi P 12 \end{gathered}$ | $\begin{gathered} 12 / 28 \\ 23 \sim \$ 10 \end{gathered}$ |  |  |  |  |  |

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| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 10 ¢ 28 | 2125 55 | 26~01 |  | $29 \times 59$ | 21 8 32 |  |  |
| 8 | $17 \quad 36$ | 13 R 41 | $3) 50$ | 15 | 10 ข 30 | 21 D 10 | 14 R |  |
| 15 | $24 \quad 44$ | 730 | 1128 | 29 | 2110 | $21 \quad 29$ | 13 | 48 |
| 22 | $1 \approx 51$ | 8027 | $18 \quad 50$ | 212 | $1 \approx 56$ | $22 \quad 26$ | 12 | 40 |
| 29 | 858 | $14 \quad 03$ | $25 \quad 54$ | 26 | $12 \quad 47$ | $23 \quad 58$ | 11 | 37 |
| 25 | 1604 | 2204 | 2 r 34 |  |  |  |  |  |
| 12 | 2310 | $1 \approx 24$ | $8 \quad 42$ | 312 | $23 \quad 41$ | $25 \quad 58$ | 10 | 45 |
| 19 | 0 ) 14 | 1140 | $14 \quad 11$ | 26 | 4736 | $28 \quad 22$ | 10 | 11. |
| 26 | 717 | $22 \quad 44$ | $18 \quad 47$ | 49 | 1531 | 1504 | 9 | 57 |
|  |  |  |  | 23 | $26 \quad 24$ | 400 |  | 05 |
| 35 | $14 \quad 18$ | 4 \% 37 | $\begin{array}{ll}22 & 15 \\ 24 & 13\end{array}$ |  |  |  |  |  |
| 12 | $21 \quad 18$ | $17 \quad 23$ | 24 13 <br>   |  | [ 7712 | $\begin{array}{rr}7 & 06 \\ 10 & 18\end{array}$ | 10 | 33 20 |
| 19 | $28 \quad 16$ | 1 r 00 | 24 R 23 | 21 $6 \quad 4$ | $\begin{array}{ll} 17 & 53 \\ 28 & 25 \end{array}$ | $\begin{array}{ll}10 & 18 \\ 13 & 33\end{array}$ | 11 12 | 20 24 |
| 26 | 5 r 13 | 1503 | 2234 |  | $\begin{array}{ccc}28 & 25 \\ 8847\end{array}$ | $\begin{array}{ll}13 & 33 \\ 16 & 48\end{array}$ | 12 13 | 24 |
|  | 1208 | 2809 | 1900 | 18 | 8847 | 1648 | 13 | 43 |
| 9 | 1901 | 8812 | 1438 |  | $18 \quad 56$ | $19 \quad 59$ | 15 |  |
| 16 | $25 \quad 53$ | 1340 | $10 \quad 50$ | 16 | $28 \quad 52$ | 2304 | 16 | 51 |
| 23 | 2 ४ 44 | 14 R 07 | 838 | 30 | $8 \times 31$ | $25 \quad 59$ | 18 | 35 |
| 30 | 932 | i0 40 | 8 D 23 | 813 | $17 \quad 52$ | 2840 | 20 | 22 |
| 67 | $16 \quad 19$ | $6 \quad 27$ | 56 | 27 | $26 \quad 52$ | 1304 | 22 | 09 |
| 14 | 2305 | 4 D 43 | 1300 |  | 5 ¢ 28 | 05 | 23 | 53 |
| 21 | 2950 | 638 | $17 \quad 12$ | 24 | $13 \quad 35$ | 40 | 25 | 31 |
| 28 | 6 I 33 | 1152 | $\begin{array}{ll}22 & 17\end{array}$ | 108 | $21 \quad 07$ | 542 | 27 | 01 |
| 64 | $13 \quad 16$ | $19 \quad 51$ | $28 \quad 02$ | 22 | $27 \quad 54$ | 608 | 28 | 18 |
| 11 | $19 \quad 58$ | 0 II 12 | 4817 |  |  | 0 |  |  |
| 18 | 2639 | 1246 | 1057 | 115 | 30842 | 5 R 55 | 29 | 20 |
| 25 | 3 © 20 | $27 \quad 12$ | $17 \quad 54$ | 19 | $8 \quad 11$ | 04 |  | 05 |
|  |  |  |  |  | $10 \quad 57$ | 40 | 0 | 29 |
|  | $16 \quad 41$ | 12 e 25 27 10 | $\begin{array}{rrr}25 & 07 \\ 2 \times 32\end{array}$ | 17 | 11 R 27 | 53 |  |  |
| 9 | $\begin{array}{ll}16 & 41\end{array}$ | $\begin{array}{lll}27 & 02 \\ 10 & 10\end{array}$ | 2 Ir 32 | 31 | $9 \quad 18$ | $0 \quad 00$ | 0 | 12 |
| 16 | $23 \quad 21$ | 10 or 16 | $10 \quad 07$ |  |  |  |  |  |
| 23 | 0802 | 2159 | 1750 | DATE | - | + |  |  |
| 30 | 643 | 2709 | $25 \quad 41$ |  | 10 7. 53 | $14 \chi^{7} 39$ | 14 | 07 |
| 86 | $13 \quad 25$ | $10 \quad 37$ | 3039 |  | 1142 | $15 \quad 35$ | 14 | 07 |
| 13 | $20 \quad 08$ | $17 \quad 00$ | 1142 | 3 | 11 R 42 | 1604 | 13 | 40 |
| 20 | 2652 | $20 \quad 28$ | $19 \quad 51$ |  | $10 \quad 56$ | 16 R 06 | 12 | 52 |
| 27 | $3 \mathrm{~T} / 37$ | 19 R 50 | $28 \quad 04$ |  | 44 | 1540 | 12 | 04 |
| 93 | $10 \quad 23$ | $14 \quad 43$ | 60? 22 |  | 31 | 1454 | 11 | 31 |
| 10 | $17 \quad 10$ | 832 | $14 \quad 44$ |  | 47 | $14 \quad 07$ | 11 D | 25 |
| 17 | $24 \quad 00$ | 7 D 23 | $23 \quad 11$ |  | 7 D 48 | $13 \quad 32$ | 11 | 51 |
| 24 | $0 \Omega 50$ | $13 \quad 25$ | 1 Tl 40 |  | 37 | 13 D 23 | 12 | 44 |
| 101 | 742 | $24 \quad 07$ | $10 \quad 13$ |  | $10 \quad 02$ | 1344 | 13 | 50 |
| 8 | $14 \quad 36$ | $6 \bumpeq 24$ | $18 \quad 48$ | 111 | 1153 | $14 \quad 32$ | 15 | 02 |
| 15 | 2132 | 1842 | $27 \quad 26$ | 121 | $13 \quad 43$ | $15 \quad 36$ | 16 | 00 |
| 22 | $28 \quad 29$ | 0 Mu31 | $6 \Omega 07$ |  |  |  |  |  |
| 29 | $5 \mathrm{~m}_{2} 27$ | 1152 | 1449 |  | $15 \quad 19$ | $10 \quad 45$ | 16 | 36 |
| 115 | $12 \quad 28$ |  |  | DATE | ת | DATE |  |  |
| 12 | $19 \quad 29$ |  | $2 m_{0} 18$ | 11 | $29 \Omega 53$ | 71 | 20. | 18 |
| 19 | 2633 | $13 \quad 42$ | 1104 |  | 28. 14 | 81 | 18 | 39 |
| 26 | $32 \times 37$ | $23 \quad 25$ | 1951 |  | $26 \quad 45$ | 9 | 17 | 01 |
| 123 | 1042 | 1453 | $28 \quad 39$ |  | $25 \quad 07$ | 101 | 15 | 26 |
| 10 | $17 \quad 49$ | 705 | 7×27 |  | $23 \quad 32$ | 11 | 13 | 47 |
| 17 | $24 \quad 56$ | 5 R 12 | $16 \quad 15$ |  | 2153 | 121 | 12 | 12 |
| 24 | 2 ข 04 | 26 『 22 | $25 \quad 04$ |  |  | 1 | 10 | 33 |
| 31 | 812 | $21 \quad 12$ | 3 勺ว่ 52 |  |  |  |  |  |

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| 11 | 20810 | 41 | 39 of 11 | 72 | 22 ขర 01 | 102 | 1542 |
| 3 | 14 II 07 | 3 | 27 mp 12 | 4 | $21 \sim 00$ | 4 | $25 \quad 28$ |
| 5 | 8 ¢ 41 | 5 | $26 \Omega 29$ | 6 | 18 \％ 09 | 6 | 19 （21 |
| 7 | 4000 | 7 | 26 Tm． 12 | 8 | $13 \% 31$ | 8 | $14 \sim 00$ |
| 9 | 07820 | 3 | $25 \times 25$ | 10 | 7 ¢ 41 | 10 | 975 |
| 11 | 2716 | 11 | 23－5 31 | 12 | 1 If 21 | 12 | 7 드 16 |
| 13 | $24 \Omega 53$ | 13 | $20 \sim 20$ | 14 | 2505 | 14 | 57 mb |
| 15 | 23 7t．13 | 15 | 16 \％ 02 | 16 | 19617 | 16 | $5 \sim 13$ |
| 17 | $22 * 07$ | 17 | 10 r 49 | 18 | $11 \sim 07$ | 18 | 4 勺8 17 |
| 19 | 20 ฟึ 59 | 19 | 4858 | 20 | 97780 | 20 | $2 \sim 32$ |
| 21 | $19 \approx 00$ | 21 | 2842 | 22 | $6 \Omega 01$ | 22 | 2945 |
| 23 | 15 \％ 34 | 23 | 22 III 21 | 24 | 3 mol | 24 | 25 ＊ 57 |
| 25 | 10 T 37 | 25 | $16 \bigcirc 19$ | 26 | $1 \times 45$ | 26 | 21716 |
| 27 | 4 ¢ 36 | 27 | 11 の 08 | 28 | 1 ท60 | 28 | 15852 |
| 29 | $28 \quad 13$ | 29 | 77819 | 30 | $0 \approx 33$ | 30 | 9 － 53 |
| 31 | 22 If 10 |  |  |  |  |  |  |
|  |  | 51 | 5 으 14 | 81 | $29 \approx 11$ | 111 | 3 3 37 |
| 22 | 17 G 02 | 3 | 478.45 | 3 | $26 \times 15$ | 3 | 27 27 |
| 4 | 13002 | 5 | $5 * 04$ | 5 | 21 r 40 | 5 | 21858 |
| 6 | 10 गाr 04 | 7 | 4 นํํ 57 | 7 | 15 ช 54 | 7 | 17 T／ 43 |
| 8 | $7 \Omega 47$ | 9 | $3 \approx 28$ | 9 | 9 I 37 | 9 | $15 \Omega 10$ |
| 10 | 576.49 | 11 | 0 3t 17 | 11 | 3328 | 11 | 14 \％ 19 |
| 12 | $4 x 00$ | 13 | 2538 | 13 | 2757 | 13 | $14 \times 26$ |
| 14 | 212 | 15 | 19 r 58 | 15 | 23 ¢f 17 | 15 | $14 \times 18$ |
| 16 | $0 \approx 08$ | 17 | 13849 | 17 | 19 Tr 30 | 17 | $12 \sim 56$ |
| 18 | 2721 | 19 | 7 If 28 | 19 | $16 \Omega 29$ | 19 | $9 \times 59$ |
| 20 | $23 \times 28$ | 21 | ，E11 | 21 | 14 ms08 | 21 | $5 \gamma 40$ |
| 22 | 18 r 22 | 23 | $25 \quad 17$ | 23 | $12 \times 24$ | 23 | 0825 |
| 24 | 12 ¢ 21 | 25 | 20 Of 08 | 25 | 11 บ8 04 | 25 | $24 \quad 36$ |
| 26 | 6 It 0 | 27 | 16 \％ 08 | 27 | $9 \sim 41$ | 27 | 18 II 28 |
| 28 | 2958 | 29 | $13 \Omega 44$ | 29 | 7 H 34 | 29 | 12 อ11 |
|  |  | 31 | 13 Rr 02 | 31 | $4 \boldsymbol{r} 14$ |  |  |
| 3 | $24 \bigcirc 56$ |  |  |  |  | 121 | 6803 |
|  | 21 \＆ 17 | 62 | $13=25$ | 92 | 29 r 33 | 3 | 07828 |
|  | 18 TP 59 | 4 | 13 ¢6 41 | 4 | 23 ¢ 48 | 5 | $25 \quad 59$ |
|  | 17 ת 36 | 6 | $12 \approx 34$ | 6 | 17 Ir 34 | 7 | $23 \xlongequal{\sim} 10$ |
|  | 16 7R26 | 8 | $9 \times 34$ | 8 | 11 O29 | 9 | $22 \pi \leq 15$ |
|  | $14 \times 88$ | 10 | 4 r 51 | 10 | $6 \Omega 08$ | 11 | $22 \times 41$ |
|  | 12 プ 55 | 12 | 2902 | 12 | 1 ก7 52 | 13 | 23 ทึ 09 |
|  | $10 \approx 06$ | 14 | 22642 | 14 | 2847 | 15 | $22=20$ |
|  | 6 ）f 27 | 16 | $16 \pi 21$ | 16 | $26 \Omega 37$ | 17 | $19 \times 36$ |
|  | 1 T 53 | 18 | 10 16 | 18 | 24 7ヶ58 | 19 | 15 T 10 |
|  | $26 \quad 26$ | 20 | 4 U 40 | 20 | $23 \sim 26$ | 21 | 9 ช 38 |
|  | 20 ४ 19 | 22 | 2944 | 22 | 21 री 43 | 23 | 3 ［7 32 |
|  | 13 If 57 | 24 | 257786 | 24 | $19 \approx 29$ | 25 | $27 \quad 17$ |
|  | 7 ¢ 55 | 26 | $23 \Omega 06$ | 26 | $16 \times 29$ | 27 | 21 ＠ 05 |
|  | 2 ¢ 49 | 28 | 21 Th． 56 | 28 | 12 r 31 | 29 | 150808 |
|  |  | 30 | $21 \times 55$ | 30 | 7 ¢ 31 | 31 | 974.41 |

STATIONARY POSITIONS


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4 ど43 7 27

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Calculated for Midnight GMT

| DATE | $\bigodot$ |  | ర̧ | $q$ |  | DATE | $\bigcirc^{7}$ | 4 | 万 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $1!$ | 10 vd |  | 21009 | $5 \mathrm{Vf}^{\circ}$ |  | 11 | 9 O 03 | 29 IT 52 |  | 10 |
| $\dot{8}$ | 17 | 21 | $24 \times 18$ | 13 | 56 | 15 | 4 R 24 | 28 R 10 |  | R 29 |
| 15 | 24 | 29 | 1ช8 20 | 22 | 45 | 29 | 28 ¢ 53 | 2653 |  | 34 |
| 22 | $1 \approx 36$ |  | $10 \quad 10$ | $1 \approx 33$ |  | 21226 | $24 \quad 28$ | $\begin{array}{ll} 26 & 11 \\ 26 & 0 \\ \hline \end{array}$ | $27 \quad 28$ |  |
| 29 | 43 |  | $20 \quad 00$ | 10 | 20 |  | $22 \quad 24$ |  | $26 \quad 21$ |  |
| 25 | 15 | 50 | $0 \approx 31$ | 19 08 | 08 |  | 22049 | $26 \quad 43$ | $\begin{array}{ll}25 & 18 \\ 24 & 28\end{array}$ |  |
| 12 | $22 \quad 55$ |  | 1140 | $27 \quad 5$ | 54 | $\begin{array}{r} 26 \\ 4 \quad 9 \end{array}$ | $\begin{array}{lll}22 & 0 & 49 \\ 25 & 19\end{array}$ | $\begin{array}{ll}26 & 43 \\ 27 & 54\end{array}$ |  |  |
| 19 | 0700 |  | $\begin{array}{cc} 23 & 30 \\ 6 & \times 04 \end{array}$ | $6 \times 40$ |  |  | $25 \quad 19$ | $27 \quad 54$ | $24 \quad 28$ |  |
| 26 | 02 |  |  | 15 | 25 | 23 | $\begin{array}{cc} 29 & 23 \\ 4 & 83 \end{array}$ | $\begin{array}{cc} 29 & 35 \\ 1 \in 41 \end{array}$ | $23 \quad 54$ |  |
| 35 | 14 | 03 | $\begin{array}{cc} 19 & 21 \\ 2 & \tau 50 \end{array}$ | $\begin{array}{cr} 24 & 10 \\ 2 & \tau 53 \end{array}$ |  | $\begin{array}{rr} 57 \\ 21 \end{array}$ | $10 \quad 40$ | 408 | 23 D 46 |  |
| 12 | 21 | 03 |  |  |  |  |  |  |  |  |
| 19 | 28 | 02 | 1500 | 11 | 35 |  | $17 \quad 22$ | 51 | $\begin{array}{ll}24 & 13 \\ 24 & 59\end{array}$ |  |
| 26 | 4 r 58 |  | $23 \quad 23$ | $20 \quad 15$ |  | $\begin{array}{rc} 6 \quad 4 \\ & 18 \end{array}$ | $24 \quad 34$ | 945 |  |  |
| 42 | 1154 |  | 26 R 07 | $28 \quad 54$ |  |  | 271809 | 1248 | 2602 |  |
| 9 | 47 |  | $23 \quad 23$ | 7832 |  |  | $10 \quad 03$ | $15 \quad 55$ |  |  |
| 16 | $\begin{array}{ccc}25 & 39 \\ 28 & 89\end{array}$ |  | $18 \quad 16$ | 16 | 08 |  | $18 \quad 15$ | 1904 | $\begin{array}{cr} 27 & 19 \\ 28 & 48 \\ 0 & 7 P \\ 25 \end{array}$ |  |
| 23 |  |  | 1504 | $24 \quad 43$ |  |  | $26 \quad 41$ | $\begin{array}{ll} 22 & 12 \\ 25 & 16 \end{array}$ |  |  |
| 30 | 98 |  | 15045 | $3 \times 15$ |  | $\begin{array}{r} 813 \\ 27 \end{array}$ | 26  <br> 5  |  | 208 |  |
| 57 | 16 |  | $20 \quad 02$ | 1146 |  |  | $14 \quad 17$ | $28 \quad 09$ |  |  |
| 14 | $22 \quad 51$ |  | $\begin{array}{rrr}27 & 07 \\ 6 & 6 & 24\end{array}$ | $20 \quad 15$ |  | $\begin{array}{r} 910 \\ \quad 24 \end{array}$ | $\begin{array}{rr} 23 & 26 \\ 2 \mathrm{mal} \end{array}$ | $0 \Omega 53$ | 40 |  |
| 21 | 29 | 36 |  | 28 | 42 |  | 2 MA7 | 320 | $\begin{array}{ll}7 & 23 \\ 9 & 01\end{array}$ |  |
| 28 | 6 I 19 |  | $\begin{array}{r} 17 \quad 37 \\ 0 \text { II } 43 \end{array}$ | 7 ¢ 06 |  | $\begin{array}{r}108 \\ \\ \hline 22\end{array}$ | $\begin{array}{\|ll} 12 & 21 \\ 22 & 08 \end{array}$ | $\begin{array}{ll} 5 & 27 \\ 7 & 09 \end{array}$ |  |  |
| 64 | 1944 |  |  | 15 | 28 |  |  |  | 10 | 29 |
| 11 |  |  | $15 \quad 24$ | $\begin{array}{cc} 23 & 47 \\ 288 & 03 \end{array}$ |  | $\begin{array}{rr} 11 & 5 \\ & 19 \end{array}$ |  | 7 09 10 29 <br> 8 21 11 46 |  |  |
| 18 | 26 | 25 | 0¢ 44 |  |  | $2 x^{\prime} 07$ |  |  |  |  |  |  |
| 25 | 3 ¢ 06 |  | $15 \quad 20$ | 10 | 15 |  | $12 \quad 18$ | $\begin{array}{ll}8 & 21 \\ 8 & 59\end{array}$ |  |  |
|  | 946 |  | $\begin{array}{cc} 28 & 23 \\ 9 \Omega & 42 \end{array}$ | $18 \quad 24$ |  |  |  | 223341 <br> 8 | 8 R 58 |  |  |
| 72 |  |  | $26 \quad 28$ |  | $\begin{aligned} & 17 \\ & 31 \end{aligned}$ | $8 \quad 19$ | 13 R 54 |  |  |  |
| 9 | 16 | 26 |  |  | $13 \quad 56$ | 06 |  |  |  |  |  |
| 16 | 2307 |  | $\begin{array}{ll}19 & 13 \\ 26 & 41\end{array}$ | 4727 |  | DATE X |  | + |  |  |
| 23 | $\begin{array}{cc} 29 & 48 \\ 6 \Omega & 27 \end{array}$ |  |  | 12 |  |  |  | 19 |  |  |
| 30 |  |  | $\begin{aligned} & 17783 \\ & 2858 \end{aligned}$ | $20 \quad 05$ |  | $111 \mid 15$ m. $^{19}$ |  |  | $16 \times 45$ |  | $\Omega 36$ |
| 86 | $\begin{array}{ccc}6 \times 2 & 27 \\ 13 & 11\end{array}$ |  |  | 27 | 43 | 21 | $16 \quad 15$ | $17 \quad 42$ | 16 | R 39 |
| 13 | 19 | 54 | 0 $\sim^{2} 12$ | $5 \Omega$ | 10 | 3 | 16 R 22 | $18 \quad 13$ | 16 | 14 |
| 20 | 26 | 38 | $24 \quad 33$ | 12 | 26 | 41 | 1543 | 18 R 17 | 15 | 27 |
| 27 | $3 \pi \times 23$ |  | $20 \quad 31$ | 19 | 26 |  | $14 \quad 34$ | $17 \quad 53$ | 14 | 38 |
| 93 | $10 \quad 09$ |  | $\begin{array}{r} 22018 \\ 07 P_{17} \end{array}$ | 2609 |  |  | $13 \quad 19$ | 17 08 | $14 \quad 03$ |  |
| 10 | $16 \quad 56$ |  |  | 2 m 28 |  | 1 | $\begin{array}{\|lr} 12 & 30 \\ 12 & 0 \\ \hline \end{array}$ | $\begin{array}{ll} 16 & 21 \\ 15 & 44 \end{array}$ | 13 D 5 |  |
| 17 | 23 | 45 | 1205 | 8 | 17 | 1 |  |  | $14 \quad 17$ |  |
| 24 | $0 \cong 37$ |  | $\begin{array}{rr} 25 & 03 \\ 7 \Omega & 45 \end{array}$ | $13 \quad 26$ |  | 910 | $\begin{array}{\|ll\|} 13 & 03 \\ 14 & 23 \end{array}$ | $15033$ | 15 | 08 |
|  | 728 |  |  | $17 \quad 44$ |  |  |  | $15 \quad 52$ | 16 | 14 |
| 8 | 14 | 22 | 1949 | 20 | 54 | 11 | $16 \quad 12$ | $16 \quad 38$ | 17 | 27 |
| 15 | 21 | 17 | 17314 | 22 | 37 | 12 | $18 \quad 03$ | $17 \quad 41$ | 18 | 27 |
| 22 | 28 | 14 | 12 O6 | 22 R | 31 |  |  |  |  |  |
| 29 | 5 m |  | $22 \quad 28$ | 20 | 29 | 11 | 1942 | $18 \quad 50$ | 19 | 05 |
| 115 | 12 | 13 | $2 \times 17$ | 16 | 52 | DATE | $\Omega 6$ | DATE |  |  |
| 12 | 19 | 15 | $11 \quad 16$ | 12 | 40 | 1 | $10 \bumpeq 33$ | 7 | 0 | 58 |
| 19 | 26 | 18 | $18 \quad 28$ | 9 | 13 | 2 | 55 | 81 |  |  |
| 26 |  |  | 21 R 28 | 7 | 28 | 31 | 26 |  | 27 | 41 |
| 123 | 10 | 28 | 1714 |  | 44 |  | $\begin{array}{ll}5 & 47\end{array}$ | 10 | 26 | 06 |
| 10 | 17 | 34 | 815 | 9 | 47 |  | 4 | 11 | 24 | 27 |
| 17 | 24 | 41 | 5 D 30 | 13 | 19 |  | 233 | 12 | 22 | 52 |
| 24 | 1 vos | 49 | 955 | 18 | 00 |  |  | 11 | 21 | 14 |
| 31 | 8 | 56 | 3750 | 23 | 33 |  |  |  |  |  |

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| JATE | $3$ | DATE | $2$ | DATE | $J$ | DATE | (3) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 11 | 2278 | 41 | $15 \times 56$ | 72 | 2 III 12 | 102 | $5 \sim 09$ |
| 3 | $18 \sim 19$ | 3 | $14 \sim 04$ | 4 | $26 \quad 14$ | 4 | $17 \pi 13$ |
| 5 | 16 m，02 | 5 | 11 ※ 54 | 6 | 20901 | 6 | $28 \quad 13$ |
| 7 | $15 \times 30$ | 7 | 9 T O1 | 8 | 13 of 43 | 8 | $25 x^{7} 58$ |
| 9 | 15 uf 59 | 9 | 5810 | 10 | 7 TP 39 | 10 | 24 น์ 14 |
| 11 | $16 \sim 08$ | 11 | 0 프16 | 12 | $2 \Omega 11$ | 12 | $22 \approx 45$ |
| 13 | 14 H 44 | 13 | 2432 | 14 | 2754 | 14 | 21 犬 09 |
| 15 | 11 r 22 | 15 | 18 장 | 16 | $25 \pi 20$ | 16 | $19 \% 01$ |
| 17 | 6823 | 17 | 12 Of 16 | 18 | $24 \times 37$ | 18 | 15 ¢ 54 |
| 19 | 026 | 19 | 6725 | 20 | $25 \times 5$ | 20 | 11 工 33 |
| 21 | 2409 | 21 | $2 \Omega 49$ | 22 | $25 \approx 24$ | 22 | 6 6 06 |
| 23 | 17357 | 23 | 0 mb 12 | 24 | 24 H20 | 24 | 29 58 |
| 25 | 12 \＆ 06 | 25 | 2847 | 26 | 21 r 26 | 26 | 23 of 43 |
| 27 | 61786 | 27 | 2754 | 28 | 16855 | 28 | 18 TP 03 |
| 29 | $2 \Omega 04$ | 29 | 26735 | 30 | 11 I 20 | 30 | $13 \sim 29$ |
| 31 | 2817 |  |  |  |  |  |  |
|  |  | 51 | $24 \approx 50$ | 81 | 5 （3） 12 | 11 1 | $10 \pi / 16$ |
| 22 | 25 Mr 44 | 3 | 22 35 00 | 3 | 2855 | 3 | $8 \times 712$ |
| 4 | $24 \times 74$ | 5 | 18 「 17 | 5 | 220245 | 5 | 645 |
| 6 | 24 ช5 20 | 7 | 13846 | 7 | 16 リア 55 | 7 | $5 \approx 17$ |
| 8 | $24 \sim 03$ | 9 | 8 2 31 | 9 | $11 \Omega 43$ | 9 | $3 \times 25$ |
| 10 | 22 才 35 | 11 | 2 （e）38 | 11 | 7 m 33 | 11 | 1701 |
| 12 | 19 T 24 | 13 | $26 \quad 24$ | 13 | $4 \times 49$ | 13 | 2801 |
| 14 | 14 ¢ 37 | 15 | 20 ？ 16 | 15 | 3 ขอ 39 | 15 | 24815 |
| 16 | 8 If 46 | 17 | 14 TP 51 | 17 | $3 \sim 37$ | 17 | 19 지 35 |
| 18 | 2 20 | 19 | $10 \Omega 46$ | 19 | 3 H 40 | 19 | 14 セ 01 |
| 20 | 2623 | 21 | $8 \pi 27$ | 21 | $2 \boldsymbol{r} 3$ | 21 | 7 \＆ 49 |
| 22 | 20 णf 49 | 23 | $7 \times 43$ | 23 | 2957 | 23 | 17 mP |
| 24 | 16 MP 00 | 25 | 7 7 40 | 25 | 25 ¢ 35 | 25 | $25 \quad 47$ |
| 26 | $11 \bumpeq 58$ | 27 | $7 \approx 10$ | 27 | 20 If 02 | 27 | $21 \Omega 19$ |
| 28 | $87 \rightarrow 45$ | 29 | 5 H 24 | 29 | 1352 | 29 | 18 \％ 32 |
|  |  | 31 | $2 \gamma 15$ | 31 | 7 of 35 |  |  |
| 32 | $6 x^{7} 23$ |  |  |  |  | 12 l | 17 a 17 |
| 4 | 4 勺648 | 62 | 27 r 59 | 92 | 17783 | 3 | 16 ทึ 46 |
| 6 | $3 \approx 42$ | 4 | 22654 | 4 | $26 \quad 13$ | 5 | $15 \sim 58$ |
| 8 | 2731 | 6 | 17 Ir 15 | G | 21 ת 33 | 7 | $14 \times 13$ |
| 10 | 0729 | 8 | 11510 | 8 | 17 mu 48 | 9 | 11 r 23 |
| 12 | 2708 | 10 | 4 هP 52 | 10 | $15 \times 08$ | 11 | 7840 |
| 14 | 22826 | 12 | 2842 | 12 | 13 ข53 | 13 | 3 II 12 |
| 16 | $16 \times 41$ | 14 | 23 T1P 12 | 14 | $12 \approx 45$ | 15 | 2803 |
| 18 | 10 2 29 | 16 | $19 \sim 00$ | 16 | $12 \star 05$ | 17 | 22 6 14 |
| 20 | 4 of 25 | 18 | 16740 | 18 | 10 T 41 | 19 | 15 of 57 |
| 22 | 2902 | 20 | $16 \times 10$ | 20 | 7857 | 21 | 9 T1P 35 |
| 24 | 247741 | 22 | 16 ข 37 | 22 | 3 工 42 | 23 | $3 \Omega 45$ |
| 26 | $21 \Omega 25$ | 24 | $16 \sim 42$ | 24 | 2814 | 25 | 2909 |
| 28 | 197605 | 26 | 15 \％ 18 | 26 | 22 ® 05 | 27 | 26 Tha3 |
| 30 | 1720 | 28 | $12 \dot{\gamma} 11$ | 28 | 15 of 51 | 29 | $25{ }^{7} 28$ |
|  |  | 30 | 7839 | 30 | 1070 | 31 | 25－39 |

STATIONARY POSITIONS

|  |  | $?$ | $0^{i}$ | $4$ | $5$ | X | $\Psi$ | （0） |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1／2 | 8／05 | 10／19 | $3 / 03$ | 2／20 | 4／26 | 2／20 | 3／21 | 1／19 |
| 21－14 | 37701 | $22 \pi 48$ | 22 © 17 | 26TI 04 | 23.839 | $16 m 24$ | $18{ }^{2} 19$ |  |
| 4／02 | 8／29 | 11／29 |  | 11／26 | 12／25 | 7／21 | 6／21 | 6／24 |
| 26707 | 20821 | 71120 |  | 9804 | 137856 | 12 m 19 | $12 \times 19$ | $13 \simeq 54$ |
| 4／26 | 11／26 | 12／16 |  |  |  |  | 8／28 |  |
| 14753 | $21 \times 38$ | $5 \sqrt{122}$ |  |  |  |  | 15 د13 |  |

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| $1 \pm$ | $9 \times 58$ | $19 \times 07$ | $24 m_{2} 24$ | 11 | $14 \times 54$ | 7 R 00 | 13 R |  |
| 8 | 1706 | 2840 | $0 \times^{7} 40$ | 15 | 2533 | $5 \sim 19$ | 13 F |  |
| 15 | $24 \quad 14$ | 8 ทீ 53 | 725 | 29 | $6 \approx 29$ | 327 | 12 | 51 |
| 22 | 121 | 1935 | 1433 | 212 | $17 \quad 30$ | 141 | 11 | 56 |
| 29 | 829 | $0 \approx 46$ | 2157 | 26 | 2832 | $0 \quad 15$ | 10 | 51 |
| 25 | 1535 | $12 \quad 29$ | 2934 |  |  |  |  |  |
| 12 | 2240 | $24 \quad 48$ | 722 | 312 | $9 \times 35$ | 2919 | 9 | 43 |
| 19 | 2944 | $7 \times 39$ | $15 \quad 18$ | 26 | 2035 | 29000 | 8 | 42 |
| 26 | 6447 | 2028 | 23 21 |  | 1 r 31 | 2919 | 7 | 52 |
|  |  |  |  | 23 | 1221 | 0413 | 7 | 19 |
| 35 | $13 \quad 49$ | 1 T 30 | $1 \approx 29$ |  |  |  |  |  |
| 12 | $20 \quad 49$ | 751 | $9 \quad 42$ | 57 | 2303 | 138 | 7 | 05 |
| 19 | $27 \quad 47$ | 7 R 28 | $17 \quad 57$ | 21 | 3877 | $3 \quad 29$ | 7 D | 11 |
| 26 | 4 T 44 | 205 | 26 16 | 64 | 1400 | 543 | 7 | 38 |
| 42 | 1140 | $26 \times 59$ | 4 36 | 18 | $24 \quad 12$ | $8 \quad 14$ | 8 | 23 |
| 9 | 1833 | 25052 | 1259 | 72 | 4 II 14 | 1059 | 9 | 25 |
| 16 | $25 \quad 25$ | $28 \quad 53$ | 2123 | 16 | 1400 | $13 \quad 53$ | 10 | 41 |
| 23 | 2815 | 5 T 01 | 2948 | 30 | $23 \quad 35$ | 1653 | 12 | 08 |
| 30 | 904 | 1324 | $8 \uparrow 14$ | 813 | 2 e 56 | 1957 | 13 | 44 |
| 57 | $15 \quad 51$ | $23 \quad 35$ | 1641 | 27 | 1203 | 2301 | 15 | 26 |
| 14 | $22 \quad 37$ | 5824 | 2508 | 910 | $20 \quad 54$ | 2601 | 17 | 11 |
| 21 | $29 \quad 22$ | $18 \quad 49$ | 3836 | 24 | $29 \quad 28$ | 2855 | 18 | 56 |
| 28 | 6 III 05 | 3 II 39 | 1205 | $10 \quad 8$ | 7 V 41 | 17839 | 20 | 38 |
| 64 | 1248 | $18 \quad 58$ | $20 \quad 35$ | 22 | 1531 | 408 | 22 | 14 |
| 11 | 1930 | 3 2 25 | 2905 |  |  |  |  |  |
| 18 | 2611 | 1607 | 7 2 35 | 115 | 2252 | 618 | 23 | 41 |
| 25 | 2 อ 52 | $26 \quad 48$ | 1607 | 19 | 2936 | 804 | 24 | 56 |
|  |  |  |  | 123 | 5717 | $9 \quad 22$ | 25 | 56 |
| 72 | 933 | $5 \sim 21$ | 2439 | 17 | 1022 | 1006 | 26 | 37 |
| 9 | $16 \quad 13$ | 1124 | 3 e 12 | 31 | 13 48 | 10 R 13 | 26 | 58 |
| 16 | 2253 | 1418 | 1147 |  |  |  |  |  |
| 23 | $29 \quad 34$ | 13 R 26 | 2022 |  |  |  |  |  |
| 30 | 6016 | $9 \quad 12$ | $28 \quad 58$ |  |  |  |  |  |
| 86 | 1257 | 430 | 7 \& 35 | 21 | 2045 | 1949 | 19 R | 12 |
| 13 | 1940 | 3 D 23 | $16 \quad 13$ | 31 | 21 R 00 | 2022 | 18 | 49 |
| 20 | $26 \quad 24$ | 751 | $24 \quad 53$ | 4 | 2028 | 20 R 29 | 18 | 03 |
| 27 | 37809 | $17 \quad 27$ | 3773 | 51 | 1922 | $20 \quad 07$ | 17 | 15 |
| 93 | 955 | 07811 | 1214 | 61 | 1806 | $19 \quad 23$ | 16 | 36 |
| 10 | 1642 | 1343 | 2055 | 71 | 1711 | 1835 | 160 | 26 |
| 17 | 23 31 | $26 \quad 47$ | $29 \quad 37$ | 8 1 | 16055 | $17 \quad 57$ | 16 | 46 |
| 24 | $0 \bumpeq 21$ | $9 \Omega 02$ | $8 \Omega 20$ | 9 | 1729 | 17044 | 17 | 35 |
| 101 | 713 | 2030 | 1702 | 10 1 | 1844 | 1800 | 18 | 40 |
| 8 | 1407 | 177615 | 2546 | 11 | $20 \quad 29$ | 1844 | 19 | 54 |
| 15 | 2102 | 1120 | 4720 28 | 121 | $22 \quad 20$ | 1946 | 20 | 55 |
| 22 | $28 \quad 00$ | $20 \quad 37$ | 1312 |  |  |  |  |  |
| 29 | $47 \pi 58$ | $28 \quad 42$ | 2155 | 11 | 2403 | $20 \quad 55$ | 21 | 36 |
| 115 | 1158 | 4. 27 | 0-38 | $\text { DATE } \quad \Omega$ |  | DATE | $\Omega$ |  |
| 12 | 1900 | 5 R 21 | 921 | 1 | 21 T 14 | 71 | 1138 |  |
| 19 | 2603 | $28 m^{2} 52$ | 1804 | 2 | 1935 | 8 | $10 \quad 00$ |  |
| 26 | 3. 07 | $20 \quad 50$ | $26 \quad 46$ | 3 | 1806 | 9 | 821 |  |
| 123 | $10 \quad 13$ | 20039 | 5 ชู่ 28 | 4 | 1628 | 10 | 646 |  |
| 10 | 1719 | $26 \quad 54$ | $14 \quad 10$ | 61 | $\begin{array}{ll}14 & 52 \\ 13 & 14\end{array}$ | 11 | 508 |  |
| 17 | $24 \quad 26$ | 5, 54 | 2251 |  |  | 12 | 332 |  |
| 24 | 1 ห834 | $15 \quad 56$ | $1 \approx 31$ | 6 | 1314 |  | 1 |  |
| 31 | 842 | 2626 | 1010 |  |  |  |  |  |

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| DATE | － | \％ | $\bigcirc$ | DATE | $\sigma^{x}$ | 4 |  |  |
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| 11 | 9 ¢543 | $27 x^{7} 57$ | $11 \sim 24$ |  | 137758 | 10 mP 12 |  |  |
| 8 | $16 \quad 51$ | 8 勺8 47 | $20 \quad 01$ | 15 | $15 \quad 20$ | 9 R 39 | 26 R |  |
| 15 | $23 \quad 59$ | $19 \quad 57$ | $28 \quad 36$ | 29 | 14 R 17 | 831 | 26 | 35 |
| 22 | $1 \approx 07$ | $1 \approx 31$ | 7＊ 08 | 212 | $10 \quad 44$ | 656 | 25 | 54 |
| 29 | 14 | $13 \quad 32$ | 1537 | 26 | $5 \quad 29$ | 507 | 24 | 58 |
| 25 | $15 \quad 20$ | $25 \quad 53$ | $24 \quad 03$ |  |  |  |  |  |
| 12 | $22 \quad 25$ | 7854 | 2 T 24 | 311 | $\begin{array}{ll}0 & 17 \\ & 6\end{array}$ | 20 | 23 | 54 |
| 19 | 2930 | $17 \quad 34$ | $10 \quad 39$ | 25 | $26 \& 50$ | 49 | 22 | 48 |
| 26 | 6 H 33 | 21 R 30 | $18 \quad 49$ | 48 | 25 D 53 | 46 | 21 | 47 |
|  |  |  |  | 22 | $27 \quad 16$ | 016 | 20 | 58 |
| 34 | $13 \quad 34$ | $17 \quad 59$ | 2651 |  |  |  |  |  |
| 11 | $20 \quad 34$ | 1111 | 4843 | 56 | 07382 | 0 D 23 | 20 | 26 |
| 18 | 2733 | 732 | $12 \quad 26$ | 20 | 513 | 05 | 20 | 12 |
| 25 | 4 T 30 | 8045 | $19 \quad 56$ | 63 | $10 \quad 57$ | 18 | 20 D | 18 |
| 41 | 1125 | $13 \quad 42$ | $27 \quad 10$ | 17 | $17 \quad 30$ | 59 | 20 | 45 |
| 8 | $18 \quad 19$ | $21 \quad 11$ | 4 III 05 | 71 | $24 \quad 41$ | 03 | 21 | 29 |
| 15 | $25 \quad 11$ | OT 29 | $10 \quad 37$ | 15 | $2 \Omega 23$ | 25 | 22 | 30 |
| 22 | $2 \bigcirc 01$ | 1116 | $16 \quad 39$ | 29 | $10 \quad 32$ | 1103 | 23 | 45 |
| 29 | $8 \quad 50$ | $23 \quad 28$ | $22 \quad 02$ | 812 | 1903 | $13 \quad 51$ | 25 | 12 |
| 56 | $15 \quad 37$ | 7804 | $25 \quad 35$ | 26 | 27 54 | $16 \quad 47$ | 26 | 47 |
| 13 | $22 \quad 23$ | 2154 | 0 セ゚ 03 |  | 77004 | 1948 | 28 | 28 |
| 20 | $29 \quad 08$ | 7 rr 06 | 208 | 23 | $16 \quad 32$ | $22 \quad 50$ |  |  |
| 27 | 5 III 51 | $21 \quad 15$ | 2 R 30 |  | $26 \quad 16$ | $25 \quad 49$ | 1 | 55 |
| 63 | $12 \quad 34$ | 3 222 | 054 | 21 | $6 x^{-1} 16$ | 2843 | 3 | 36 |
| 10 | $19 \quad 16$ | 1306 | $27 \times 34$ |  |  | 28 － |  |  |
| 17 | $25 \quad 57$ | $20 \quad 15$ | $23 \quad 17$ | 114 | $16 \quad 29$ | $1 \Omega 27$ | 5 | 11 |
| 24 | 2 238 | $24 \quad 21$ | $19 \quad 19$ | 18 | 2656 | 58 | 6 | 36 |
|  |  |  |  | 122 | 7 प 33 | 11 | 7 | 49 |
| 71 | $\begin{array}{ll}9 & 18\end{array}$ | 24 R 52 | $16 \quad 45$ | 16 | $18 \quad 21$ | 800 | 8 | 47 |
| 8 | $15 \quad 59$ | 2158 | 16 D 05 | 30 | $29 \quad 16$ | $9 \quad 21$ | 9 | 26 |
| 15 | $22 \quad 39$ | $\begin{array}{ll}17 & 37 \\ 15 & 14\end{array}$ | $\begin{array}{ll}17 & 16 \\ 19 & 58\end{array}$ |  |  |  | $($ |  |
| 22 | 2920 | $15 \quad 14$ | $19 \quad 58$ | date | － | $\Psi$ | 7 |  |
| 29 | $6 \& 01$ | 17 D 10 | $23 \quad 54$ | 1 | 2477， 03 | $20 \times 55$ | 21ת |  |
| 85 | $12 \quad 43$ | $23 \quad 56$ | $28 \quad 47$ | 2 | $25 \quad 12$ | 2156 | 21 R | 46 |
| 12 | $19 \quad 26$ | $4 \Omega 53$ | 4 ＠ 22 | 31 | 25 R 34 | 2231 | 21 | 25 |
| 19 | $26 \quad 10$ | $18 \quad 23$ | 1032 | 4 | $25 \quad 08$ | 22 R 40 | 20 | 39 |
| 26 | 271454 | 27 Tl 24 | 17 | 51 | 2406 | $22 \quad 19$ | 19 | 49 |
| 92 | 940 | $15 \quad 46$ | $24 \quad 04$ | 61 | 2250 | $21 \quad 36$ | 19 | 11 |
| 9 | $16 \quad 28$ | $28 \quad 10$ | 10819 | 71 | $21 \quad 51$ | $20 \quad 48$ | 18 D | 58 |
| 16 | $23 \quad 17$ | $9 \Omega 37$ | 848 | 8 | 21 D 30 | $20 \quad 09$ | 19 | 17 |
| 23 | $0 \Omega 07$ | $20 \quad 13$ | $16 \quad 29$ | 9 | 2157 | 19 D 54 | 20 | 04 |
| 30 | $6 \quad 59$ | $29 \quad 53$ | $24 \quad 20$ | 10 | $23 \quad 06$ | $20 \quad 09$ | 21 | 09 |
| 107 | $13 \quad 53$ | 878.35 | 27121 | 11 | $24 \quad 49$ | $20 \quad 52$ | 22 | 23 |
| 14 | $20 \quad 48$ | $15 \quad 37$ | $10 \quad 29$ | 121 | 2640 | $21 \quad 54$ | 23 | 25 |
| 21 | $27 \quad 45$ | $19 \quad 39$ | $18 \quad 44$ |  | $\bigcirc$ |  |  |  |
| 28 | 4 m，43 | 18 R 11 | $27 \quad 04$ | DATE |  | DATE |  |  |
|  | 1144 | 10 | 5 | 11 | 17354 | 71 | 22 | 16 |
| 11 | $18 \quad 46$ | 10 4 | $5=30$ 13 | 2 | 0  <br> 08  <br> 28 15 <br> 15  | $\begin{array}{ll}8 & 1 \\ 9 & 1\end{array}$ | 20 | 37 59 |
| 18 | $25 \quad 48$ | 6030 | $22 \quad 33$ | 41 | $27 \quad 05$ | $10 \quad 1$ | 17 | 23 |
| 25 |  | $14 \quad 20$ | 17.09 | 5 | $25 \quad 29$ | 111 | 15 | 45 |
| 122 | 958 | $24 \quad 15$ | 949 | 61 | 2351 | 121 | 14 | 09 |
| 9 | $17 \quad 04$ | $4 \times 51$ | $18 \quad 29$ |  |  |  |  |  |
| 16 | $24 \quad 12$ | $15 \quad 38$ | $27 \quad 19$ |  |  |  |  |  |
| 23 | 1 ทฺ์ 19 | $26 \quad 32$ | $5 \times 54$ |  |  |  |  |  |
| 30 | $8 \quad 27$ | 7 ขอ 37 | $14 \quad 38$ |  |  |  |  |  |

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[^0]:    * See Appendix II: How to Cast a Horary Chart.

[^1]:    Quality: Fixed/air
    Principle: Social expression
    Process: The result of one's social position
    Purpose: Response to social needs
    Concrete Meaning: Science, music, and genius. Reforms and revolutions. Humanitarianism, group, and collective ideals.
    Abstract Meaning: The ability to create and express in social or collective terms.
    Cyclic Meaning: The complete absorption of an individual within a social whole.
    Things: Reorganization and revolutions; antiques and curios; modern inventions.
    Human Anatomy: The legs and ankles.

[^2]:    *denotes Leap Year

